NEW EQUIPMENT DIGEST

A Penton Publication

May, 1961

Volume 26 — Number 5

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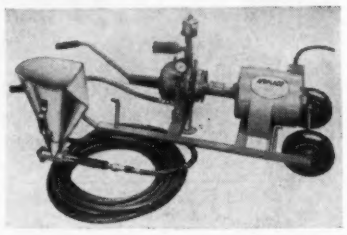
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

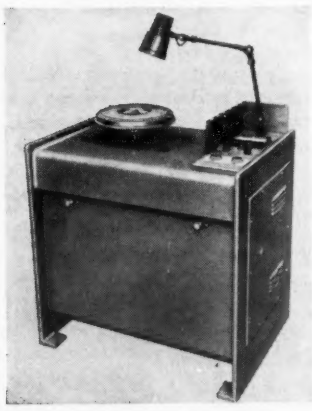
SLURRY & TEXTURE GUN
finishes over 4000 sq ft per day



Texture paint, acoustical plaster, waterproofing and sand finish coats are applied by the Spray-Tex portable slurry and texture gun. It is useful for painting or repairing masonry structures and basements. Easily transported in an automobile, the 125-lb unit finishes over 4000 sq ft per day. It has adjustable hopper feed control, quickly changed orifices for texture control, and a built-in compressor driven by a 1-hp, 60-cycle, 110-v motor. Price is $375. • **Air Placement Equipment Co.**, 1000 W. 25th St., Kansas City 8, Mo.

▲ For more details circle **NED-1 E1** on enclosed inquiry slip ▲

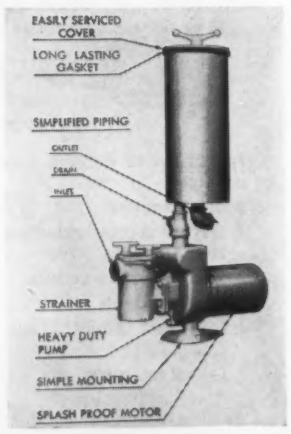
BALANCING MACHINE
handles 200-lb rotors, flywheels



Rotors, flywheels, and other rotative parts with up to 30-in. diameters, or weighing up to 200 lb, can be quickly balanced by this electronic vertical, single-plane balancer. Device employs a strobe light and electrical braking, and has four potentiometers which permit four separate meter calibrations. Thus, the calibration for one size pulley or wheel could be "saved" and another pulley balanced on the same machine without upsetting the first calibration. An ordinary shop drill press can be used back-to-back with the balancer, or a press base placed under the recess beneath the balancer. Drilling to remove weight may be done with the part in the balancer. Price of Model 2409 is $2750. • **Stewart-Warner Corp.**, 1826 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle **NED-2 E1** on enclosed inquiry slip ▲

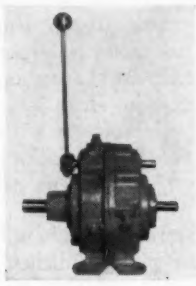
INDUSTRIAL LIQUID FILTER
removes 5-micron size particles



An extended surface, throwaway filter element capable of removing 5-micron size particles is contained in tank of this industrial filter for water, cutting fluids, soluble coolants, and other liquids. Special elements are available for removal of even smaller particles. The self-contained integral assembly consists of a splashproof motor direct-connected to a 35-gpm centrifugal pump, with an oversize debris strainer on the inlet. • **Hilliard Corp.**, 102 W. Fourth St., Elmira, N. Y.

▲ For more details circle **NED-3 E1** on enclosed inquiry slip ▲

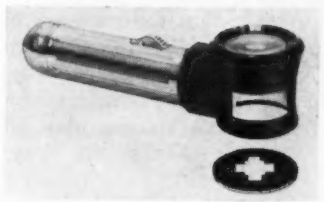
FOUR-IN-ONE TRANSMISSION
for up to 8-hp load, 3600-rpm speed



One speed forward, neutral, reverse, and speed reduction are readily selected with shift lever of this Model 5101 reversing transmission. Measuring 9 x 10 x 12½ in., drive transmits up to 8 hp at a recommended input of up to 3600 rpm intermittent or 3000 rpm continuous. The reduction ratio is 2.47:1 in both forward and reverse. Shifting can be done under full load. • **Snow-Nabstedt Gear Corp.**, Industrial Div., 251 Welton St., Hamden, Conn.

▲ For more details circle **NED-4 E1** on enclosed inquiry slip ▲

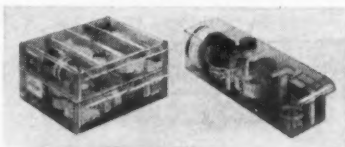
ILLUMINATED MAGNIFIERS
textile counting accessory offered



Flash-O-Lens illuminated magnifiers, used for inspection of metals, finishes, and many other products, are now available with a textile counting plate. The accessory fits into the bottom housing on 5 and 7X magnification models and is used for accurate pick counting. It permits quick measurements of ⅛, ¼, ½, and 1 in. Magnifiers are available in both battery operated and electric models. • **E. W. Pike & Co.**, 711 Pennsylvania Ave., Elizabeth, N. J.

▲ For more details circle **NED-5 E1** on enclosed inquiry slip ▲

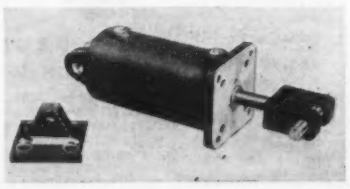
PARTS CABINETS
for large to microminiature parts



Standard equipment in all RP and RS parts cabinets is an improved adjustable plastic drawer which may be divided into compartments as small as ¼ in. They are designed to hold parts of any size. Dividers which lock into grooves are removable and adjustable as required. Model RP cabinets and drawers are made of clear styrene so that contents are visible. Model RS cabinets are steel with clear plastic drawers. Each type is available with 4 to 32 drawers. • **Akro-Mils, Inc.**, 820 E. Market St., Akron 9, Ohio.

▲ For more details circle **NED-6 E1** on enclosed inquiry slip ▲

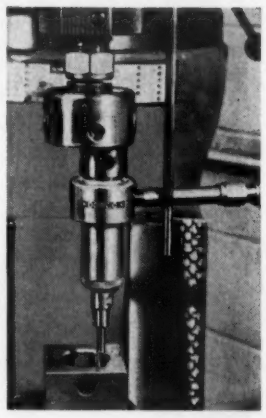
SINGLE-ACTING CYLINDERS
air actuated in 1 to 3-in. strokes



Two mounting styles in line of single-acting pneumatic cylinders adapt them to many uses requiring power stroke and spring return. With face or clevis mounts, they are available in 2¼, 3, 4, and 5-in. bores and 1, 2, and 3-in. strokes. Conical spring return allows use of 3-way valve and simplified piping. They feature pressure-tightening seals, Oilite rod cartridge, and full-floating double-lip piston cup. • **Mead Specialties Co.**, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle **NED-7 E1** on enclosed inquiry slip ▲

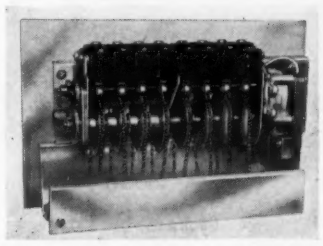
PNEUMATIC HOLE GRINDER
25,000 and 30,000-rpm models



Inserted in a boring head and used on a vertical or horizontal mill, boring machine, lathe or jig borer, Dotco pneumatic hole grinders will jig grind any size hole, as well as male cylindrical members. Extreme accuracy with maximum runout to 0.005 in. on all collet-type grinders is possible. Grinders are available in two sizes with motor speeds of 25,000 and 30,000 rpm. Each size is offered in shank diameters of ½, ⅝, or ¾ in. Hole size that can be ground is limited only by size of grinding wheel and offset adjustment of the boring head. • **Doeden Tool Corp.**, Hicksville, Ohio.

▲ For more details circle **NED-8 E1** on enclosed inquiry slip ▲

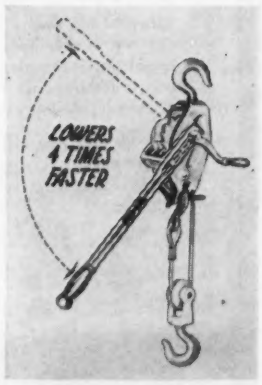
BEAD CHAIN TIMER
performs complex sequencing



The simplest of electromechanical timing devices, the synchronous motor-driven cam, has been adapted for complex sequencing in the form of this bead chain timer. Cam was removed and replaced with a drive sprocket in which an endless stainless steel bead chain is advanced. To establish cam action for actuating the switch at the desired time, large beads are applied to the chain singly to give momentary closure, or in groups to produce a sustained closure. Varied colored beads can be used for coding. Unit is capable of microsecond timing, with backfeed and interlocking circuits simple to apply. By applying a Digimotor as a solenoid drive, an omitter or interrupter is established. Timer is available on a semicustom basis. • **Eagle Signal Co.**, 202 20th St., Moline, Ill.

▲ For more details circle **NED-9 E1** on enclosed inquiry slip ▲

PORTABLE WINCH-HOISTS
½ to 2-ton rapid lowering models



User of the rapid lowering series of Lug-All portable winch-hoists can select either the notch-per-cycle lowering for positioning work or rapid lowering which lowers or backs off tension at four notches per cycle. An interlocked pawl-load transfer will not release one pawl until the other is safely engaged. Reverse lever is easily used, even when wearing gloves. Rapid lowering models are available in capacities from ½ to 2 tons with cable lengths to 38 ft. Weight is from 7 to 15½ lb. Flexible 7 x 19 aircraft cable is used. • **Lug-All Co.**, 355 Lancaster Ave., Haverford, Pa.

▲ For more details circle **NED-10 E1** on enclosed inquiry slip ▲

maybe
SUPERIOR
would do this
for you, too

Through ingenuity and with technical help from Superior, one motor repair shop was able to double the horsepower on a repair job. From the huge repertoire of Superior brush grades, almost any set of specifications can be met. If an existing grade does not give optimum performance, Superior is in the best position to produce one that will.

Write for our study of the use of carbon brushes.

SUPERIOR CARBON PRODUCTS, INC.
TRADE SCP MARK
9115 George Avenue • Cleveland 5, Ohio

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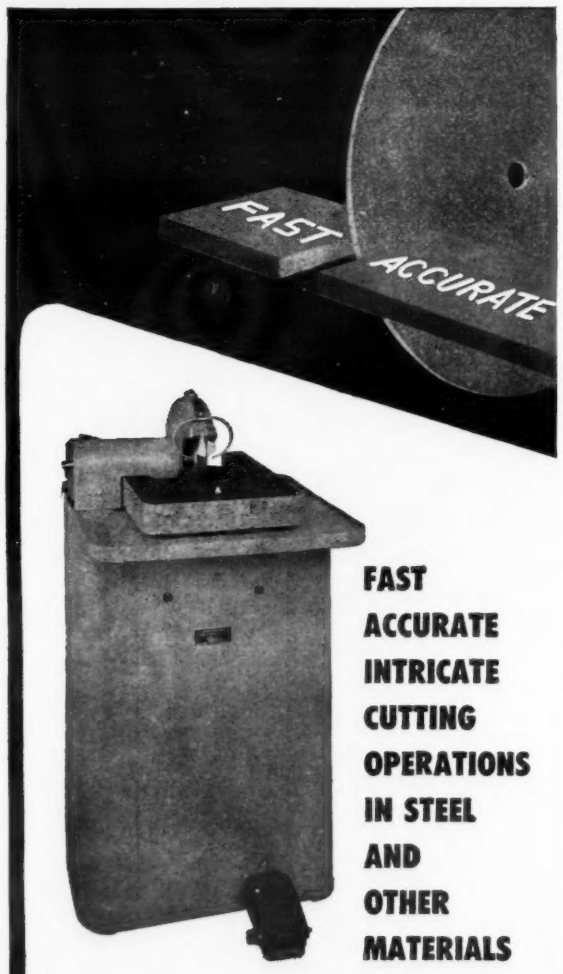


FAST ACCURATE INTRICATE CUTTING OPERATIONS IN STEEL AND OTHER MATERIALS

Aminco's CUTTING-OFF MACHINE cuts steels and other metals, glass, stone, plastic and quartz quickly and accurately. Applicable to every type of industrial and laboratory installation, the unit is simple to operate, even for unskilled personnel. Special features include a miter gage & scale; foot-operated control; spray heads that play a steady stream of coolant to cutting wheel; adjustable stop to permit cutting of exact duplicate pieces; cutting table mounted on ball bearings; bonded, abrasive cutting wheel, 12 in. in diameter; models available for 115, 230 and 440 volts.

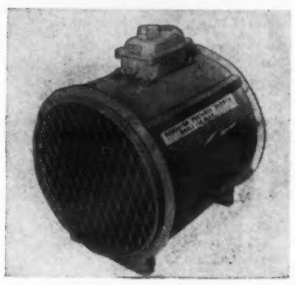
5-2416 Cutting-off Machine, 115 volts, 60-cycle, single phase, 1½ h.p. motor, size: 25 x 25 x 48 inches high $765

Full Information in **Bulletin 2312-ED**
Free upon request

American Instrument Co., Inc.
8030 Georgia Ave., Silver Spring, Maryland

▲ For more details circle NED-12 E1 on enclosed inquiry slip ▲

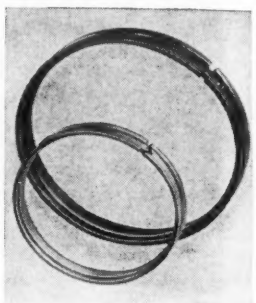
PORTABLE BLOWER
delivers up to 6500 cfm



Both standard and explosionproof models are available in this compact aluminum blower, a portable unit weighing about 70 lb. It is powered by a 1½-hp 220-440 v ac or 110-230 v ac-dc motor and delivers up to 6500 cfm. Blower may be operated in any position as a general purpose ventilation unit without loss of efficiency. It includes a water and vapor-proof switch, screen guards on both inlet and exhaust, balanced fan blades and thermal overload protection. Air duct size is 18 in. • **Manhattan Electric & Maintenance Co.,** 24 Siegel St., Brooklyn 6, N. Y.

▲ For more details circle NED-13 E1 on enclosed inquiry slip ▲

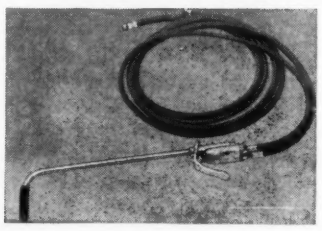
MOTOR MOUNTING RINGS
interlocking T or V closures



Method of incorporating the center rib in line of electric motor mounting rings results in sharper corners. De-Sta-Co rings are made in popular sizes with either T or V interlocking closures which prevent their intertwining during shipment, storage, and handling. Plain or plated finishes are available. • **Detroit Stamping Co.,** 330 Midland Ave., Detroit 3, Mich.

▲ For more details circle NED-14 E1 on enclosed inquiry slip ▲

AIR & LIQUID BLOW GUN
operating range is 40 to 100 psi



When the single dual-action control lever of the HBG-18 blow gun is depressed half way, the gun discharges a large volume blast of air through its ⅜-in. opening. Depressing it completely discharges the air blast plus an adjustable amount of solvent, lubricant, paint, or other fluid to coat or clean a surface. Gun operates on siphon action with almost any liquid, and requires no pressure tank. Operating air pressure range is 40 to 100 psi. Standard extension tube on the gun is an 18-in. length of ¼-in. pipe with a 90-degree turn at the end. Pipe is easily replaced with any configuration for a specific use. Gun and standard extension weigh 17 oz. All internal parts of the self-cleaning gun are made of stainless steel. • Calco, 2700 E. Main St., Columbus 9, Ohio.

▲ For more details circle NED-15 E1 on enclosed inquiry slip ▲

CHECK, MEASURE, INSPECT with this HANDY
POCKET COMPARATOR
6 Power Magnification
A GREAT TIME SAVER!

Approx. Size 1¼" x 2"

Only $19.50 POSTPAID

MEASURES . . .
ANGLES • RADII
CIRCLES
LINEAR
DIMENSIONS
in both decimal inches and mms.

FAST and ACCURATE
On Small Parts . . . Small Dimensions

Fine, imported measuring magnifier with real etched glass reticle—for on-the-spot checks of linear dimensions, angles, radii, diameters. Clear plastic cell admits light to object viewed. Focusing adjustment. Reticle easily removed for use as high-power magnifier. Instrument comes in protective leather case. We guarantee complete satisfaction or your money back.
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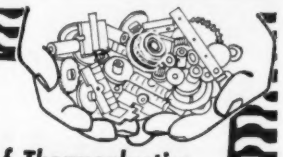
EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-16 E1 on enclosed inquiry slip ▲

Call for Swenson
Custom Molders of Thermoplastics



Investigate the economics of injection molding.

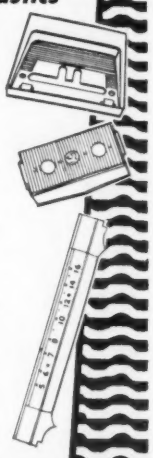
Your product can be given consumer appeal, and by eliminating costly machining and finishing operations — we'll save you money!

Today's molding resins are many and varied and adapted by us to suit your requirements. Countless industrial and consumer products are being successfully injection molded — from tiny gears and bearings to large cabinets and housings — at cost savings over other methods of manufacture.

Our skill and know-how are ready to help you choose the right material and plan your requirements. We'll then build the molds and injection mold your products.

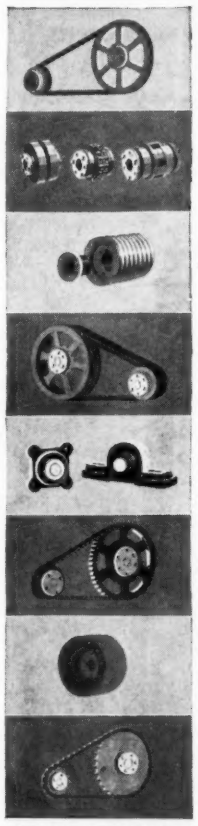
Submit prints, sketches or samples for engineering advice and quotation.

Write for literature. Call Swenson for custom molded plastics services no other company can match.



V. H. Swenson co., inc.
Engineering in Plastics
554 Elm Street, Kearny, New Jersey

▲ For more details circle NED-17 E1 on enclosed inquiry slip ▲



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our 75th year

For 75 years the Browning precept has been SEARCH . . . *continuously* search for improved designs, higher quality, better methods. The result today is industry's most convenient one-stop shopping center for efficient power transmission components. Watch Browning's continuing progress! See the full line in *new Catalog GC101*, free on request.

BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle NED-18 E1 on enclosed inquiry slip ▲

SAVES DIES!
SAVES DOWN TIME!
CUTS COSTS!

positive mechanical action MACHINE STOP

Patent applied for

TIME TESTED . . . PRODUCTION PROVEN!

Feed-Off can be quickly and accurately set.

Stops machine when:
1. Length of stock per stroke drops below a preset minimum.
2. Stock is oversize in thickness.
3. Stock is undersize in thickness.
4. Defects such as burrs and tears occur in stock.
5. Coil end approaches.

Rugged, versatile Feed-Off is completely portable . . . needs no installation other than two electrical connections. Write for details.

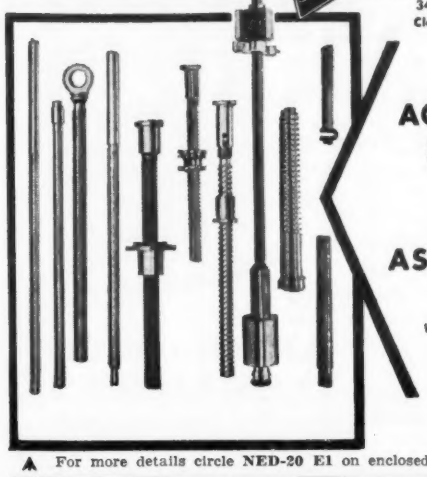
MACHINE FEED-OFF STOP

RANDS PRODUCTS, INC.
DEPT. E, WILLIMANTIC, CONN.

▲ For more details circle NED-19 E1 on enclosed inquiry slip ▲

Performance is Better with

JERPBAK BAYLESS
34170 Solon Rd.
Cleveland 39, Ohio

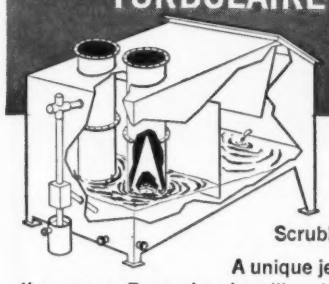


ACTUATOR SCREW and NUT ASSEMBLIES

Write For Literature

For more details circle NED-20 E1 on enclosed inquiry slip

Jet-scrubs gasses CLEAN . . . with no moving parts
TURBULAIRE SCRUBBER



When scrubbing will clear your dust and fume problems — a WP Turbulaire Scrubber will do the job best.

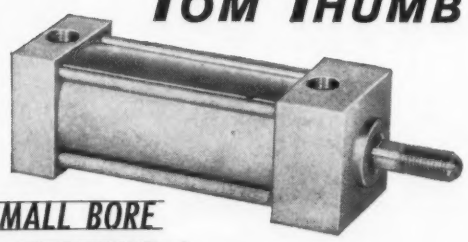
A unique jet-action principle is the reason. Even when handling dust particles of sub-micron size, it has an unusually high efficiency. No moving parts; nothing to require frequent maintenance or replacement. Wide application flexibility; easily constructed from various types of corrosion-resistant materials.

WRITE FOR LITERATURE today to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

WESTERN PRECIPITATION

For more details circle NED-21 E1 on enclosed inquiry slip

TOM THUMB



SMALL BORE CYLINDERS

AIR to 200 psi . . . . HYDRAULIC to 2000 psi.

- ¾"... 1"... 1⅛" BORES
- 8 MOUNTING STYLES
- IMMEDIATE DELIVERY

FROM STOCK

TOM THUMB cylinders are precision-built for lasting dependability. Quality features include non-corrosive barrel; stainless steel piston rod; steel head and cap; piloted construction throughout. All bore-sizes available in single or double acting, single or double rod end, or tandem type.

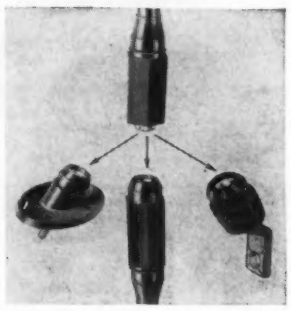
NEW DESIGNERS' TOM THUMB BROCHURE Mail card or letter today. You'll like this easy-to-use TOM THUMB helper.

SPECS. DWGS. DIMS. DATA

PNEUMATIC-HYDRAULIC DEVELOPMENT CO.
TOM THUMB DIV.... FORT WAYNE, INDIANA

For more details circle NED-22 E1 on enclosed inquiry slip

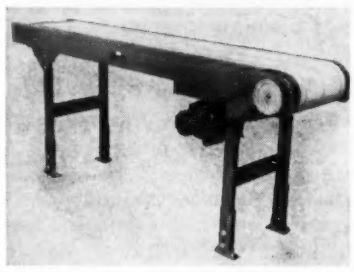
CABLE ACCESSORIES
size range extended to 750 Mcm



Cable connectors, panel and machine receptacles, and cable lugs are included in line of Cam-Lok cable accessories in waterproof, neoprene insulated style or hard fiber insulated type. Latter type is usable where moisture is not a hazard. Sizes are made to fit flexible power cables up to 750 Mcm extra flexible. Double cam high pressure, low resistance locking by a quarter-turn is incorporated. Low cost vulcanizing kit facilitates making waterproof cable connections or repairs. • **Empire Products, Inc.,** Cam-Lok Div., 9213 Blue Ash Rd., Cincinnati 42, Ohio.

For more details circle NED-23 E1 on enclosed inquiry slip

VARIABLE SPEED CONVEYOR
has sealed-for-life drive pulley

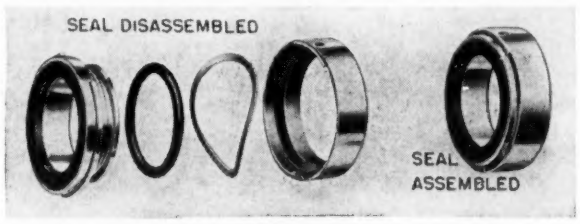


Speed ranges of 18 to 45 fpm and 25 to 62½ fpm are optional on the Ultimate light duty, variable speed, slide bed, belt conveyor. It is also offered with a fixed speed of 25, 37½, or 50 fpm. Reduction gears are mounted inside the drive pulley and sealed for life. Only lubrication points are the oil cups for motor bearings and a grease fitting on the Hi-Lo pulley. • **Island Equipment Corp.,** Box 38-276, Miami 38, Fla.

For more details circle NED-24 E1 on enclosed inquiry slip

SHAFT SEAL
easily disassembled, reassembled

Sizes up to 4 in. are available in the Tak-Apart shaft seal which conforms to all standard face type cartridge seal dimensions. It is easily disassembled and reassembled by hand. The low volume user can specify a seal from a chart for testing or production runs without tooling cost. Seal has a standard O-ring packing and a Teflon coated inner sealing surface, plus an aluminum adapter and outer shell. • **Gits Bros. Mfg. Co.,** 1866 S. Kilbourn Ave., Chicago 23, Ill.



For more details circle NED-25 E1 on enclosed inquiry slip

Load Handling is Easy— Safe with COFFING . . .

Quik Lift ELECTRIC HOISTS

It's easy to raise or lower loads while pulling a trolley mounted Coffing Quik-Lift Electric Hoist. The design of the pistol-grip control station and the combination strain and power cable makes this possible.

For safety the control station is made of non-conducting plastic in which the voltage is reduced to 115 volts. The V-type brake gives positive control of loads. Twenty models—¼ to 2 ton capacity. Ask your distributor or write for bulletin ADH-65.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-26 E1 on enclosed inquiry slip

A lot of people (whom we'd like to have as customers) look twice when they see the prices on our new liquid-filled dial indicating thermometers. We don't blame them. They're used to paying 200% more. Our prices are shockingly low. How do we do it? Simple! ¶ We have designed a clever universal mount. One mount satisfies many installation problems (reduces production and stocking costs and allows lower prices to you). We save on the unique but rugged outer casings, too. (So you save even more). But corner cutting ends here. ¶ These devices are devils for durability. Built tough to take it. Dials are big, legible, raised to reduce parallax reading error. They are sidelighted to provide better illumination. Inside? Strictly precision. The mechanisms; solid liquid-filled Bourdon tubes, are made and calibrated completely by hand (ever so carefully) just to insure reliability, accuracy, and long life. ¶ They are direct acting . . . no gears or cams to wear or fail. We guarantee every one to meet full industry specifications. So look twice at the price if you like, but look twice at the instrument, too. It is just one of a complete line of Autolite instruments that will change your opinion on how much quality costs in today's market. Another important reason why you're always right with Autolite.

AUTOLITE
INSTRUMENT DIVISION • PORT HURON, MICHIGAN

For more details circle NED-27 E1 on enclosed inquiry slip

METARAYS DON'T BUST!

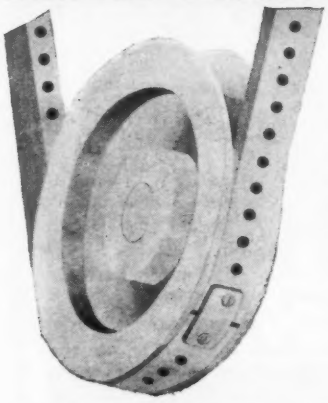
Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-28 E1 on enclosed inquiry slip

NOW! MAKE YOUR OWN V BELTS WITH JUST A SCREWDRIVER!



New Perforated OPEN-END "V" Belting

NO EXPENSIVE TOOLS, JIGS, ETC. NEEDED!

BUY YOUR "V" BELTS BY THE FOOT . . . AT MUCH LOWER COST!

AVAILABLE IN SIZES O - A - B - C
FITS STANDARD SHEAVES
GREATER HORSEPOWER, LESS VIBRATION, LESS STRETCH, LONGER LIFE

Catalogs and Samples available

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20 CROSBY STREET NEW YORK 13, N. Y.

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WITH CLASS "A" FIRE SAFETY-RATED PHILIP Carey FIRE-CHEX SHINGLES

For roofs down to 2" slope . . . exclusive 25 year guaranty bond . . . available through your roofing contractor or your building supply dealer. Mail coupon for important fact folder.

The Philip Carey Mfg. Co. Dept. NE-561 Cincinnati 15, Ohio

Send me your fact folder, "Now You Can Shingle a Factory Roof."

Name.....
Position.....
Company.....
Address.....
City.....Zone.....State.....

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NEW EQUIPMENT DIGEST

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Best of all, now you may specify either rollers or wheels for your Logan Storage Racks. Write today for further information.

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

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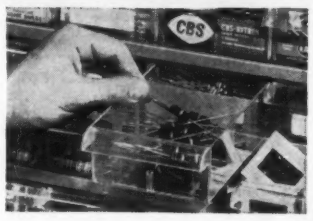
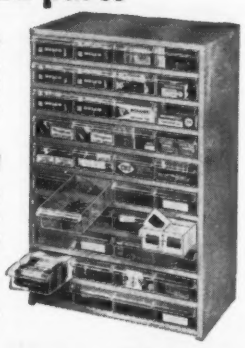
For more details circle NED-31 E1 on enclosed inquiry slip

FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts





This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

Model M40B illustrated

175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

SEND TODAY FOR OUR NEW CATALOG!

A-M

AKRO-MILS CABINETS
Box 989-T • Akron 9, Ohio

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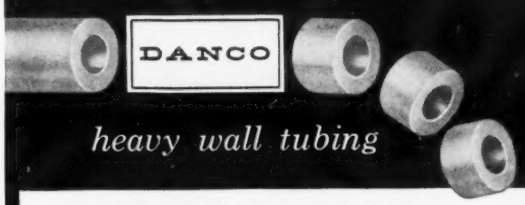
instant bearings from



heavy wall tubing

provide these added advantages: self-lubricating, tough, long-wearing. Practically frictionless, and non-corrosive, DANCO Heavy Wall Tubing is held to close tolerances. Rely on dependable DANCO for Nylon rod, strip, pressure and heavy wall tubing.

HEAVY WALL TUBING: Sizes include: O.D. from 1/2" to 2"; I.D. from 3/8" to 1 1/2". Tolerances: I.D. +0.0, −.030; O.D. +.030, −0.0. Nylon used is Type 6 or 66.

ROD: Centerless ground. 1/4" to 2". Stock lengths 10 ft. Other lengths available on request.

STRIP: Thickness: .015", .020", .025" .031", .040", .050", .062", .093", .125", Width: 1/4" to 6".

NYLON-COATED INDUSTRIAL CABLE in a wide variety of sizes for many applications such as belt lacing, drawing board cables, manual controls, artificial limbs, etc.

See Danco on your molding problems in Nylon and other engineering thermoplastics.

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THE DANIELSON MANUFACTURING COMPANY
A Subsidiary of Nicholson File Company
KING STREET, DANIELSON, CONNECTICUT

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AIR CUTS OFF AUTOMATICALLY

Handy, versatile A-10 Air Gun shoots air where you want it, when you want it. Flex nozzle when you want air, toss hose aside when you don't. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Can't clog, break, or get out of adjustment. Hardened and plated steel tip prevents damage from dropping or dragging.

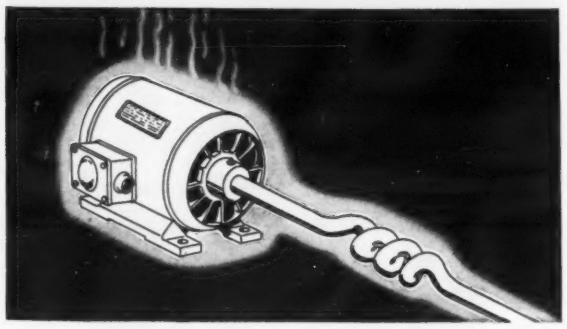
FITS 1/4" IRON PIPE THREAD

Write today for catalog and price sheets to

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of Flex-Tip Water Nozzles"

For more details circle NED-34 E1 on enclosed inquiry slip



INSTANTLY SIGNALS ABNORMAL TORQUE

The Seneca Falls Load Controller continuously measures induction motor torque . . . warns if high or low. Enables you to sense tool dullness, breakage, product damage and machine malfunctions. Meter accurately indicates percentage load; unit will actuate visible or audible alarm or shut-off relay.

Low price, simple construction and proven performance. Write for Data Sheet.

SENECA FALLS MACHINE

PIONEERS IN AUTOMATION **SENECA FALLS MACHINE CO.** SENECA FALLS, N. Y.

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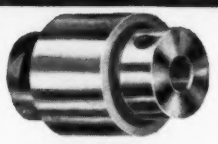
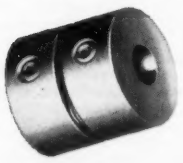
NEW MINIATURE FLEXIBLE COUPLINGS



SERIES FC
Standard Duty Type

SERIES FCC
Disconnect Type



Announcing an entirely new way to handle shaft misalignment problems. Fourdee flexible couplings and universal joints combine truly self-aligning ball and socket design principle with high standards of strength and reliability. Available in a wide variety of models and sizes, units are commonly used where compact size, high torque, tight backlash and unfavorable misalignment conditions are essential considerations.

MIDGET — Small, low cost rugged coupling for unlimited use in light duty applications. Unique torsion spring design cushions starting and braking loads. Permits 5° angular offset and 1/32" shaft misalignment. Zero backlash. Lots of 10—$1.90 each.

4D FOURDEE, INC. BOX 6006 ORLANDO, FLA.

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SOFT FACE HAMMERS
have replaceable plastic faces

Hilon urethane plastic used in the replaceable faces of Lixie Ultimate soft face hammers is available in three hardnesses, all color-keyed. Material stands up under abrasion and impact, retains its properties in −20° F temperatures, withstands lubricating and cutting oils, and is sparkproof. Hammers are made in 1, 1½, and 2-in. diameters and two weights in each size. Weights range from 8 oz to 3½ lb. Laminated handles are grooved for a safe grip. Heads are bonded to handles with epoxy resin. Machined inserts are held in place by a Nylok insert. Prices range from $4.94 to $9.13 each. • **Lixie Inc.**, Box 624, Providence 1, R. I.

▲ For more details circle **NED-38 E1** on enclosed inquiry slip ▲

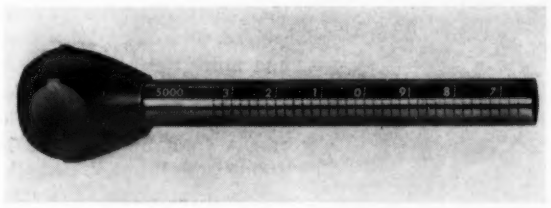
FUEL OIL ADDITIVES
reduce smoke and disperse sludge

Increased furnace efficiency results from use of Furnace Kleen fuel oil additive which is made in formula F.O.A. for No. 2 to 5 fuel oil and B.O.A. for No. 6 or Bunker C oil. Added on top of the fuel oil at a ratio of 1 gal to 1000 gal of fuel oil, additives disperse immediately throughout the entire oil supply, even into oil added later. Pinsky-Martin closed-cup rating is well in excess of 148° F. Additives prevent fuel tank corrosion by means of a rust inhibitor, dissolve and disperse sludge, emulsify moisture in the fuel tank, clean nozzles and pumps, and reduce smoke and other poisonous gases through more uniform burning. F.O.A. sells for $4.75 per gal; B.O.A., for $6.75 per gal. • **Solar Chemical Co.**, Westport, Conn.

▲ For more details circle **NED-39 E1** on enclosed inquiry slip ▲

PLUG GAGE
taper type gives accurate readings

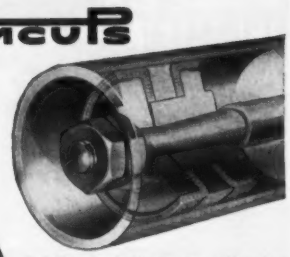
Sizes ranging from 0.250 to 1.378 in. are available in the Taper Tenths plug gage which enables the user to read a hole diameter directly to size without re-



moving the gage. Both stock and special units are available. Gage is easily used by unskilled personnel with a minimum of training. Prices start at $22.50. • **Olson Industrial Products, Inc.**, 40 W. Water St., Wakefield, Mass.

▲ For more details circle **NED-40 E1** on enclosed inquiry slip ▲

KEEP EFFICIENCY HIGH with DARCOVA Pumcups



Pumcup designs include the conventional and 45° bevel types in a full range of sizes for all reciprocating pump and cylinder mechanism requirements.

A LOT of dollars go slipping right past the pistons of reciprocating pumps and cylinders that must be frequently repacked. But Darcova Pumcups keep pump efficiency *up*, hold slippage and maintenance *down!*

Because of Darcova's unique design, true texture engineering and precision manufacture, Pumcups outlast other packing at least 3 to 1.

Pumcups are available in 100% Nylon as well as other texture-engineered compositions. Write today for your copy of Bulletin No. 5903.

DARLING VALVE & MANUFACTURING CO.
Williamsport 14, Pa.

DARCOVA — TRADE MARK — Pumcups

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All-weather housing permits outdoor installation

Now! A Foxboro Pneumatic Transmitter for six different process variables!

You can use Foxboro's M/45 Transmitter for pressure, temperature, liquid level, differential pressure, dew point, or flow! You simply specify the primary elements you want. Calibration is universal. Accuracy is guaranteed to ±½ of 1%. Standardize this easy, high-accuracy way. Write for Bulletin 13-30. The Foxboro Company, 665 Neponset Ave., Foxboro, Massachusetts.

FOXBORO
REG. U. S. PAT. OFF.

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CUT AIR TOOL MAINTENANCE COSTS . . . with Clean-Dry Compressed Air!

ADAMS AFTERCOOLERS provide virtually complete condensation of tool-damaging oil, moisture and dirt from pipeline gases — by efficient cooling to within 10°F. of the cooling water. ADAMS CYCLONE SEPARATORS then remove this condensate at a constant separation factor over all load ranges.

Adams offers this outstanding performance at substantial savings, made possible through specialization in Aftercoolers and Cyclone Separators — plus quality manufacturing methods developed over the years.

Investigate this low-cost method of protecting your pneumatic tools — write today for Bulletin 714! R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

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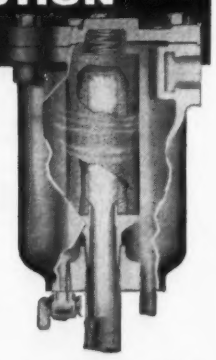
POSITIVE PRODUCTION PROTECTION



. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 117 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

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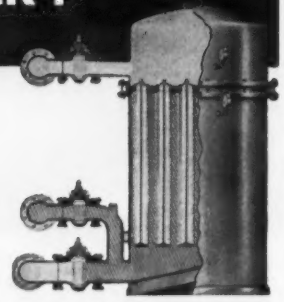
NEED LOW COST FILTERED WATER?



Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

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RUSCOE INDUSTRIAL ADHESIVES

Pliobond*

Available in a full range of industrial sizes.

DISTRIBUTORS OF:
ALUM-O-BOND
RUSCOE EPOXY
SAFE-T-GLUE
"T" FILM (Thermosetting Tape)
And a complete line of INDUSTRIAL CEMENTS

PLIOBOND, the all-purpose cement, "bonds anything to anything." It is strong, permanent and water, gas and oil resistant. It applies easily, sets quickly and withstands flexing.

W. J. RUSCOE CO.
475-485 Kenmore Blvd. Akron 1, Ohio
2185

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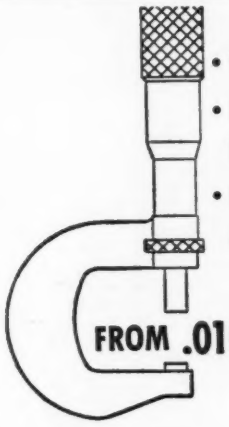

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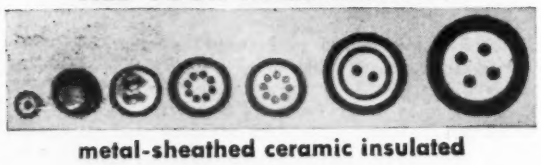
• HEATING ELEMENTS
• PRECISION ASSEMBLIES

FROM .010" TO .500"

WITH CONFIGURATIONS FOR ALL YOUR REQUIREMENTS



metal-sheathed ceramic insulated

Pyro ELECTRIC, INC.
WALKERTON, INDIANA

▲ For more details circle NED-46 E1 on enclosed inquiry slip ▲

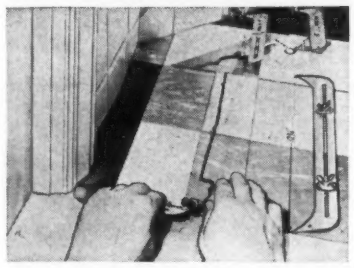
from PREMETCO SELF LOCKING ALUMINUM JACKETING

Now contractors and maintenance crews can aluminum sheath insulated lines without special tools or holding bands and with less labor. Premetco, aluminum Loc-Jac jacketing can be installed by one man even on overhead lines. Pre-cut and pre-rolled Loc-Jac ends the need for heavy cutters and rollers. The natural tension of the rolled sections will hold the jacketing in place until secured. A Z-Crimp along one edge of the jacketing forms a water tight seal with the opposing edge. Each section interlocks with adjoining sections to form a continuous seal. Sections are secured with screws, pop rivets or conventional banding.
Premetco Loc-Jac permits staggering the insulation and sheathing joints. A two-inch circumferential overlap of the jacketing provides for natural expansion without separating the joint. The interior surface is moisture proofed by a 60-pound Natural Kraft paper with 10-pound polyethylene coating solidly bonded to the jacketing. Write for full information and prices today.

PREFORMED METAL PRODUCTS COMPANY, INC.
230 Simms Street Shreveport, Louisiana P. O. Box 1134

▲ For more details circle NED-47 E1 on enclosed inquiry slip ▲

CONTOUR SCRIBER
aids in fitting wood, tile, linoleum



Parallel and irregular surfaces are perfectly matched by using this contour scriber for fitting wood, tile, linoleum, plastics, sheet metal and other materials. Adjustable to 12¾ in. long, the tool solves cutting problems when fitting around pipes, cabinets, door sills, and door frames. It is equipped with a pencil holder on one end to mark the material to be cut. Surface can also be scribed by the adjustable pointer blade. Price is $1.30 plus postage. • **Charles Machine Co.**, Box 63-217B, Springfield, N. J.

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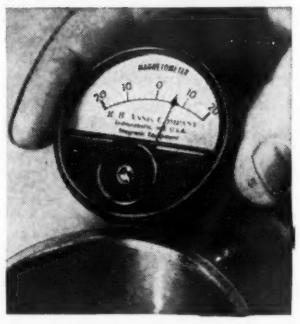
MAGNETOMETER
shows residual magnetism in parts



Degree of residual magnetism picked up by hardened steel parts from magnetic chucks, conveyors, and machine tools is instantly measured by this pocket magnetometer. The pointer deflects to a reading proportional to the magnetism in the tool, part, or structure at the point of contact. Polarity is indicated by the direction of deflection on the center-zero scale. Instrument also measures and compares unusually strong magnetic fields by maintaining a known distance between it and the object being tested. • **R. B. Annis Co.**, 1101 N. Delaware St., Indianapolis 2, Ind.

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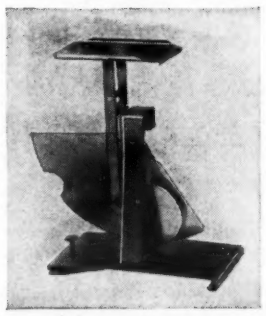
GRAM-OUNCE SCALE
for laboratory and industrial uses



Production line weighing, spot checks, chemical weighing, quantity counts by weight, and other laboratory and industrial uses are applications for this gram-ounce scale. It is calibrated in ounces from 0 to 16 and in grams from 0 to 450. Weighing pan measures 3 x 2¼ in. and the scale height is 5¾ in. Made of polished stainless steel and aluminum, it is priced at $6.95. • **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington, N. J.

▲ For more details circle NED-50 E1 on enclosed inquiry slip ▲

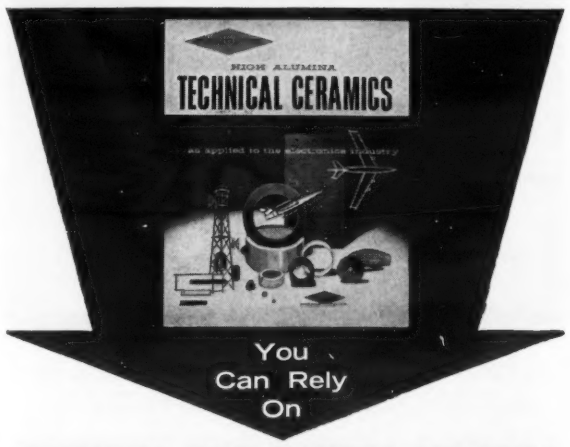
New! Gentle-Action Food Elevator
ECON-O-LIFT
Operates On A Completely Different Principle

A remarkable achievement permitting the rapid handling of loads without breakage, dusting or marring . . . ideal for elevating, lowering or transferring fragile foods and materials. (a) Trays remain separated and upright at all times — even at turns — except at load and unload points. (b) Exclusive ECON-O-SPACER action moves trays together into interlocking bank at loading point — no spillage between trays ever. (c) Trays turn upside-down **only at unloading point** for dumping, quickly return to horizontal for travel — no fallout at turns. Available in any height or length, with the type of tray or bucket to suit **your** requirements. All these ECON-O-VEYOR advantages at great savings in cost!

For Brochure, Write:
ECON-O-VEYOR
Division Of
HAPMAN CORPORATION
630 GIBSON ST., KALAMAZOO, MICH.

ECON-O-VEYOR

▲ For more details circle NED-51 E1 on enclosed inquiry slip ▲



You Can Rely On

DIAMONITE HIGH ALUMINA CERAMICS

for Superior Resistance to dielectric loss, heat, wear, shock, corrosion and many other difficult physical and environmental conditions. Your copy of "Technical Ceramics" will be mailed at once—write or phone

DIAMONITE products mfg. co.
SHREVE, OHIO, DEPT. ND-5, Phone JOseph 7-4211

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Sealing Problems?
TRY BRIDGEPORT
INNER-SEAL®
RUBBER SEALING STRIP

FREE
SAMPLES AND FACT FOLDER FOR DESIGNERS AND ENGINEERS
WRITE DEPT. ED1

Inner-Seal seals better, protects better! Made of resilient sponge rubber locked into flexible spring wire flange, covered with oil and water-resistant Neoprene*. Assures close-fitting seal that is air-tight, sun-tight, water-tight, seals out heat or cold. Used in many industrial applications on hatch covers, refrigerated trucks, water-tight doors, aircraft, lid gaskets, generators, core blowers, hydraulic presses, cushioning, motor boats, disc grinders.
*Reg. T.M. of DuPont

BRIDGEPORT FABRICS, INC., Bridgeport 9, Conn.

▲ For more details circle NED-53 E1 on enclosed inquiry slip ▲

REPLACES MANILA!

NEW Berkley
POLYPROPYLENE ROPE

Berkley's Polypropylene Rope with new multi-twist, a new process that assures even tension on all strands and holds the twist—will fit your rope needs better! Berkley's Polypropylene Rope is stronger, has rope surface for easier tying and handling, floats and is rot-resistant —made to last!

FREE SAMPLES . . . (NED)
Please rush me samples, costs and fact sheets on Polypropylene
NAME ..... COMPANY .....
ADDRESS .....
CITY ..... STATE .....
☐ Check here if you want a Berkley representative to call on you.
_____ How much footage of rope do you purchase a year?

Berkley & Co.
SPIRIT LAKE, IOWA

▲ For more details circle NED-54 E1 on enclosed inquiry slip ▲

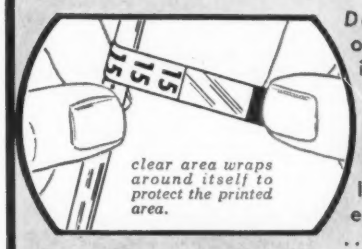
E-Z-CODE WIRE MARKERS

IDENTIFY WIRES OF *ANY* SIZE

Self-adhering E-Z-CODES with exclusive, *adhesive-protecting* tabs give sure, foolproof, lasting identification. Thousands of stock markers in a variety of sizes and all temperature materials. Vari-Temp Cloth, Flameproof Aluminum Foil, oil resistant Vinyl-Plastic, super-thin Polyester all in 1½" and ¾" length markers.

NEW . . . NEW . . . NEW . . . NEW

SELF-LAMINATING Wire Markers



Designed to resist oils, greases, chemicals, fluids, foreign matter . . . partly pre-coded—partly a transparent marker . . . self-laminated marker "protects itself" . . . sticks tenaciously.

Write for Free E-Z-CODE samples, Laboratory Test Report, literature, name of local stocking distributor.

WESTLINE PRODUCTS

A Division of Western Lithograph Company
611 EAST 2nd STREET, LOS ANGELES 54, CALIF.

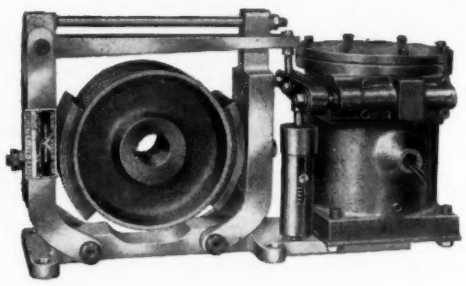
▲ For more details circle NED-55 E1 on enclosed inquiry slip ▲

TROMBETTA SOLENOID CORP.

MILWAUKEE WISCONSIN
U.S.A.

329 N. Milwaukee St. • Phone BRoadway 1-8347

TSX-500 Line of Explosion-Proof Solenoid-Operated Brakes from 10 to 75,000 Ft. Lbs. Capacity



SAFE for Use in Fire-Hazardous Areas

Designed expressly for machinery used in handling and transferring hazardous materials and flamable liquids. Solenoid is enclosed in a sealed, explosion-proof tank filled with oil (see below). Long stroke solenoid is fast operating, fast releasing. All difficulties resulting from slow operating torque motors and other makeshift operators completely eliminated.

LONGER PERIODS BETWEEN ADJUSTMENTS: Long stroke solenoid uses only 65% of stroke to release brake; other 35% for reserve. Lining with most constant coefficient of friction gives uniform service. Made for all frequencies, and for all voltages up to 750 volts — AC and DC.

EXPLOSION PROOF SOLENOIDS AND SOLENOID OPERATORS

FX-326 SOLENOID 10 LBS. AT 1½" STROKE

FX-300 LINE EXPLOSION PROOF SOLENOIDS

SOLENOID OPERATOR (REVERSING SOLENOID)

R2DX-326 RDX-300 LINE

The FX-300 explosion proof solenoids and the RDX-300 explosion proof solenoid operators have a variable stroke. For the standard models at minimum stroke, the capacity at 85% voltage ranges from 8 lbs. at 0.47" stroke to 300 lbs. at 1.67" stroke. At maximum stroke, the capacity ranges from 3 lbs. at 1.25" stroke to 100 lbs. at 5" stroke.

By the use of external levers longer than the standard ones, the maximum stroke can be increased with corresponding decrease in pull.

For external levers twice as long as the standard ones, the capacity at maximum stroke ranges from 1.5 lbs. at 2.5" to 50 lbs. at 10". Other combinations are possible.

Ask for Bulletins EE-191 and EE-193 or our complete catalog. See our catalog in Sweet's Catalog Service. There is a Trombetta solenoid for every imaginable requirement.

TROMBETTA SOLENOID CORP.

IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle NED-56 E1 on enclosed inquiry slip ▲

LAYOUT SCRIBER
affords accuracy to ±0.005 in.

Straight lines or circles can be scribed on sheet metal, wood, and pattern making materials by the Micro-Layout tool which is accurate within ±0.005 in. Points are set to a dimension by ¼-in. adjustment on the locating rod, and fine-adjusted with micrometer type wheel on the bar. Lever lock holds the setting until released. Trammel point is located at the back side of the headstock and separate graduations are provided for circles and for straight line work. Tool is available in 12, 18, and 24-in. rod sizes. • **O'Brien Engineering Co.**, Mfg. Div., South Beloit, Ill.

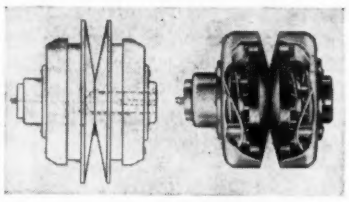
▲ For more details circle NED-57 E1 on enclosed inquiry slip ▲

COMPRESSIBLE-LIQUID SHOCK
1-oz unit has 800-lb spring force

Weighing only 1 oz, this 1⅛ x ½-in. Model 409.8 SS Liquid Spring Shok absorbs 175 in.-lb of energy in 1/10-in. stroke. Its 800-lb spring force operates in 1/10-in. stroke with 80-lb preload to 0.04-in. stroke with 400-lb preload. Smallest in a line of over 80 standard models of spring shocks, dash pots, and springs, this compact, dual-purpose unit meets miniaturization and light weight requirements. • **Taylor Devices, Inc.**, 200 Michigan Ave., North Tonawanda, N. Y.

▲ For more details circle NED-58 E1 on enclosed inquiry slip ▲

VARIABLE SPEED PULLEYS
rated 1 to 5 hp at 1750 rpm



Constant speed at all times, even under overload conditions, is afforded by this Vari-Speed series of V-belt variable speed pulleys. Each pulley face is actuated independently by its own spring and cam assemblies; the opposite wedging action of each cam and cam follower prevents pulley spread. Cam action also compensates automatically for tension and misalignment. Five models rated at 1 to 5 hp at 1750 rpm provide variable ratios up to 3 to 1. They use No. 087, 12, or 14 belts, have ⅝ to 1⅛-in. bores, and vary from 6 to 9 in. in diameter. • **Lovejoy Flexible Coupling Co.**, 4941-H W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-59 E1 on enclosed inquiry slip ▲

IF YOU CAN WRITE, YOU CAN . . . MARK IT PERMANENTLY

IDEAL

ELECTRIC MARKING TOOL

Stops Mix-Up, Loss, Theft of Parts and Tools

As easy to use as a pencil, the Ideal Electric Marking Tool quickly cuts names, part or stock numbers, sizes —any mark you want—on tools, components, equipment, materials. Stops confusion, loss and theft, pays for itself by eliminating costly tags and nameplates. Pocket-sized, it plugs into any 115v AC outlet for convenient toolroom, production line and warehouse use. Impact of 7200 cutting strokes per minute easily adjusted to suit variety of materials from steel to glass. Either diamond or hardened alloy points.

Sold through America's leading electrical distributors.
In Canada: Irving Smith, Ltd., Montreal

Attach to your signed letterhead for free Catalog Data on Electric Marker.
IDEAL INDUSTRIES, Inc.
1032-E Park Ave., Sycamore, Illinois

IDEAL

▲ For more details circle NED-60 E1 on enclosed inquiry slip ▲

—*with the right Macwhyte*

Is your wire rope exposed to corrosive conditions? To marine atmospheres? Have you tried Macwhyte Corrosion-Resistant Wire Rope? Stainless Steel, Monel Metal, Galvanized Steel, Plastic coated, or Nylon coated. You will find what you need in the complete Macwhyte line. Sizes available from 1/32" to 1½" in any length. Ask for Bulletin 49-30. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

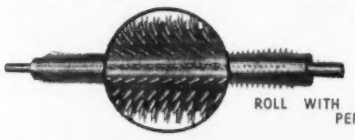
MACWHYTE

353

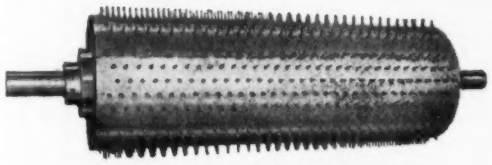
▲ For more details circle NED-61 E1 on enclosed inquiry slip ▲

PINNED CYLINDERS-TUBES ROLLS-SHAFTS

For—CRUSHING, PICKING, PERFORATING PRICKING, CONVEYING, TEARING, MIXING AND MANY OTHER APPLICATIONS

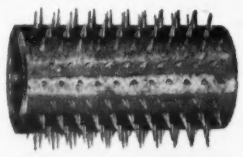


ROLL WITH SHARP POINTS FOR PERFORATING



LARGE DIA. CYLINDER WITH MANY POINTS FOR SCRATCHING, TEARING, ETC.

TUBE WITH MANY SHARP POINTS MADE TO SLIP OVER SHAFTING. USED TO PERFORATE, SHRED, TEAR, ETC.



SEND FOR PIN ROLL & CYL BROCHURE #60

Our Products are Made to Suit Your Exact Requirements—Contact Us Today

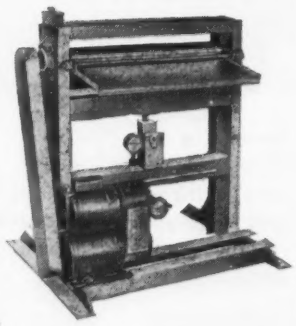
ROBERT A. MAIN & SONS, INC.
Main & New Streets Wyckoff, N. J.

▲ For more details circle NED-62 E1 on enclosed inquiry slip ▲

PERFORATING MACHINE

For Production Perforating Holes In—

- Sheet Film
- Paper
- Cloth
- Rubber
- Foil
- Leather
- Thin Metals
- Kraft Board
- Plastic Coated Fabrics
- Corrugated Cardboard
- Rubber Coated Fabrics
- Coated Cardboard
- Other Products



EASY TO OPERATE

Needle points push material aside on sheet film, etc., or will make indentation in hard objects.

Standard Main machines made in roll widths of 33", 48", 60" with needle points on square pattern of ⅛", 3/16", ¼" centers. Wider machines with special pins, pin patterns and larger diameter holes manufactured to your exact requirements.

Send For Brochure N-202 Today

ROBERT A. MAIN & SONS, INC.
Main & New Sts. Wyckoff, New Jersey

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APPROVED BY U. S. BUREAU of MINES

Provides proven protection from pneumoconiosis-producing and nuisance dusts

This popular respirator weighs less than 5 ounces, is easy to wear . . . practically unbreakable. More than 40 sq. inches twin filter area. Check valves guard against re-breathing stale air. Free literature on request describing full line of models. Order sample today from your safety equipment supplier or write direct— $3.25 postpaid.

H. S. COVER
Dept. 405, South Bend 14, Indiana

"Respirators for Industry Since 1894"

For more details circle **NED-67 E1** on enclosed inquiry slip

RECEIVING...PRODUCTION... WAREHOUSE...SHIPPING... MAINTENANCE

every department can use the CM CYCLONE

HIGH-SPEED—HEAVY DUTY—ALUMINUM ALLOY CHAIN HOIST

CAPACITIES: ¼ TO 10 TON

● Help your men get lifting jobs done quicker, safer, with less physical effort. Increase labor dollar return. PORTABLE—Carry with one hand. EASY OPERATION—Less hand chain pull. LOW HEADROOM—Highest possible lift. CM-ALLOY flexible welded load chain. Lifetime lubrication. *More CYCLONE Hoists are in use today than any other hoist in their class.*

CYCLONE CATALOG NO. 145

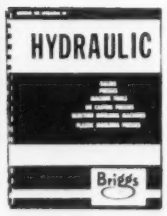
Illustrates, describes and prices all models. Sent on request or ask your CM Distributor.

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONT.

For more details circle **NED-68 E1** on enclosed inquiry slip

GRATIS . . . a 12 page file size HYDRAULIC CIRCUIT and FLUID MANUAL for almost every type and size hydraulic installation



Here is a big 8½" x 11", file size, 12 page fully illustrated manual. It's brimful of technical data and drawings that every designer and engineer will want to read or keep for ready reference. Write for your copy. No obligation.

Briggs

HYDRAULIC FLUID FILTERS

THE BRIGGS FILTRATION CO. DEPT. 381
WASHINGTON 16, D. C.

YES! At no cost or obligation, send me your Hydraulic Manual.

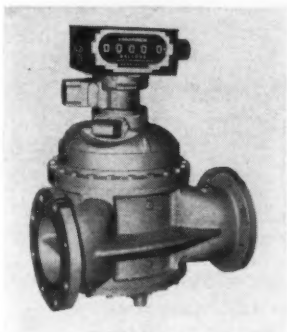
Name .....

Company .....

Address .....

For more details circle **NED-69 E1** on enclosed inquiry slip

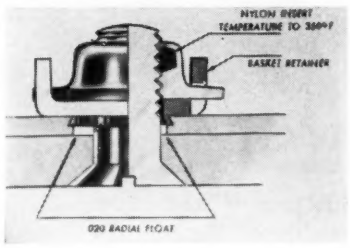
TACHOMETER TRANSMITTER operates electronic count equipment



Used in conjunction with master meters or pipe type provers, and in blending applications and valve positioning, Type D tachometer transmitter functions as a signal source to operate electronic counter equipment. It measures as close as 1 impulse or 0.9702 cu in. on the 10,000 - impulses - per - barrel model, and 1 impulse or 9.702 cu in. on the 1000-impulses-per-barrel model. Transmitter generates an alternating current with voltage output characteristics in direct proportion to the meter flow rate. Two basic units are available, each with one of two voltage outputs. Operating temperature range is −100 to 225° F. Mounting is on the meter between the meter adaptor and counter. ● **A. O. Smith Corp.,** Smith-Erie Div., 1602 Wagner Ave., Erie 6, Pa.

For more details circle **NED-70 E1** on enclosed inquiry slip

MINIATURE CLINCH NUT for thin sheet metal assemblies



Load bearing threads are provided in thin sheet metal assemblies by Type NC4284 blind-type self - locking clinch nut. The nut, with two small lugs, is retained in a window-type basket fixed on the blind side of the assembly and which provides 0.020 in. radial float to compensate for minor bolt hole misalignment. Bracket has a short knurled shank which is swaged flush into the punched or drilled hole. Nuts are made from both carbon and 18-8 stainless steel in No. 4, 6, 8, and 10 machine screw sizes. Three baskets with alternate shank lengths of 0.040, 0.060, or 0.090 in. are available for each thread size. Locking device is a red nylon insert which withstands 350° F. ● **Elastic Stop Nut Corp. of America,** 2330 Vauxhall Rd., Union, N. J.

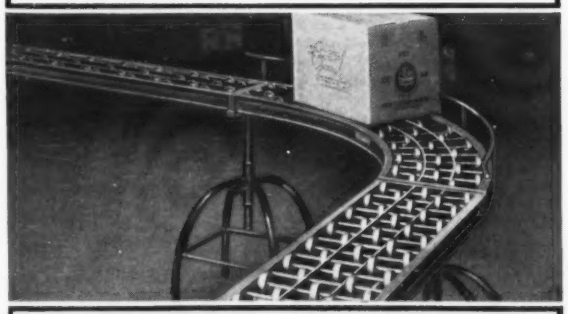
For more details circle **NED-71 E1** on enclosed inquiry slip

Chemicals for Ultrasonic Cleaning

Branson Instruments, Inc.—Virtually a handbook on the subject, 14-page booklet "Chemicals for Ultrasonic Cleaning" gives the physical properties of most commonly used cleaning chemicals. It tabulates 14 different acqueous and solvent cleaners, furnishing information on concentrations, operating temperatures, safe handling measures, and proper uses. Flash points, explosive limits, and toxicity for more than 140 solvents are listed.

For more details circle **NED-72 E1** on enclosed inquiry slip

As Dependable as Gravity and as Inexpensive!
BUSCHMAN CONVEYORS



Savings far exceed the low cost of Buschman wheel, roller and belt portables, pre-engineered for particular functions, in all kinds of plants, everywhere. Popular sizes in stock. Buschman also designs special systems; builds standard stocked parts into wheel, roller and belt type units, overhead trolleys and table-cable conveyors, to move products of all shapes, sizes. Consult our agent or write The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio.

Buschman CONVEYORS

Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities

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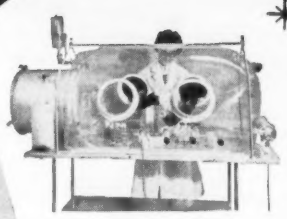
For more details circle **NED-73 E1** on enclosed inquiry slip

This is the PERFECT "Dust-free" Laboratory



***AMSCO Flexible Film Laboratory Dry Box**

This low-cost, transparent "self-contained laboratory" is designed for laboratory or production procedures demanding a controlled, isolated atmosphere . . . whether it be dust-free, moisture-free, toxic compound confining, inert gas atmosphere . . . an almost endless list.

Amsco's disposable Flexible Film Dry Box is ideal for delicate transistor and diode assembly, experimental metallurgy, missile sub-assembly work, instrument assembly . . . even Alpha radiation studies.

The canopy collapses into a compact package for storage. Following certain radiation studies, it may be disposed of easily . . . economically. Chamber is 48" long x 26" wide x 28" high and has four "working" ports, interchange lock for parts and several ducts for service lines. Optional air filtration system.

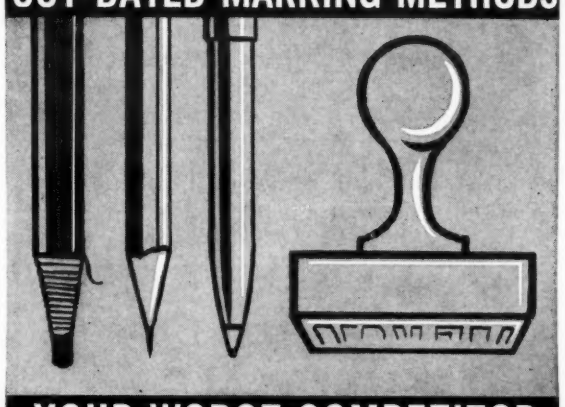
Write for bulletin IC-607.

World's largest designer and manufacturer of Sterilizers, Surgical Tables, Lights and related technical equipment for hospitals, industry, research

SCIENTIFIC AND INDUSTRIAL DEPARTMENT
AMERICAN STERILIZER
ERIE • PENNSYLVANIA

For more details circle **NED-74 E1** on enclosed inquiry slip

OUT-DATED MARKING METHODS



YOUR WORST COMPETITOR

Old-fashioned devices cost more than just the price of pencils, pens, rubber stamps or obsolete equipment. They cost hours of someone's time and give you smudgy, hard-to-read information at best. With Soabar automatic label marking equipment you . . .

- Have in-plant marking that's split-second and accurate.
- Avoid unnecessary inventory of pre-printed tags and labels.
- Eliminate waste of unusable or out-dated tags and labels.
- Imprint neat, legible labels that help keep merchandise current and salable.

Soabar company
7722 Dungan Road, Philadelphia 11, Pa.
Specialists in Marking Equipment & Roll Tickets and Labels Since 1912

For more details circle **NED-75 E1** on enclosed inquiry slip

Make ANY Fork Lift Truck an automatic drum-handler in seconds!

the Barrelifter

Low Cost
Easy to Install
Simple to Operate

The Barrelifter is an exceptionally rugged, lightweight attachment for all fork-lift trucks; costs only a third of competitive lift attachments. Installed or removed in seconds. Handles most sizes of drums, barrels, buckets, kegs, cans, and pails made of metal, wood or fiber, covered and uncovered. Only two moving parts; nothing to lubricate, or wear out. Completely automatic. Can move and stack thousands of units a day. Quickly pays for itself in time and labor saved. Four models available for immediate delivery: Model BL-PIN, $79.50; Model BL-CAM, $89.50; Model BL-Mast, $124.50; Model BL-TWO, $134.50. Dealer and Distributor inquiries invited.

PRODUCT OF Ironrite INC., MT. CLEMENS, MICHIGAN

For more details circle **NED-76 E1** on enclosed inquiry slip

UP-DATE YOURSELF ON AUTOMATIC CONTROLS

LUMENITE BULLETINS DESCRIBE LATEST ADVANCES

Check the switches and controls you are interested in, return this ad to us, and we'll be happy to send you Bulletins describing the latest advances in design and construction — technically informative Bulletins including load capacities, installation diagrams, etc. No obligation. Do it today.

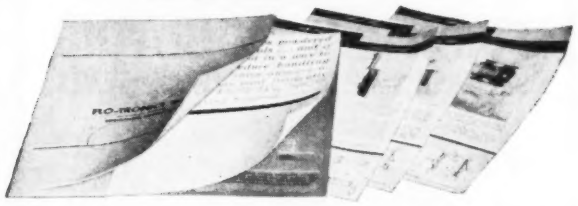
- ☐ MILK & FOOD LEVEL
- ☐ LIQUID LEVEL
- ☐ NON-CONDUCTIVE LIQUID
- ☐ BOILER LEVEL
- ☐ ICE THICKNESS
- ☐ MOTORIZED SANITARY VALVES
- ☐ TIME SWITCHES
- ☐ PROGRAM CLOCKS
- ☐ CYCLE REPEATERS
- ☐ INTERVAL TIMERS
- ☐ AUTOMATIC RESET TIMERS
- ☐ TIME DELAY TIMERS
- ☐ PHOTO-ELECTRIC RELAYS — COUNTERS, ETC.
- ☐ PROXIMITY RELAYS — ELECTRONIC MERCURY RELAYS
- ☐ AUTOMATIC LAWN SPRINKLER CONTROLS

NED

LUMENITE ELECTRONIC CO.
ENGINEERS • DESIGNERS • MANUFACTURERS
407 South Dearborn Street Chicago 5, Illinois

For more details circle NED-77 E1 on enclosed inquiry slip

NEW FLO-TRONICS AIR CONVEYING SYSTEM BROCHURE FREE FOR THE ASKING



New Flo-Tronics brochure features cost saving air conveying applications for bulk handling of powdered or granular products.

Product sheets, illustrate and describe the Flo-Tronics Rotary Air Lock, Sweep-Flo Fluidizing Valve, New "Flo-Seal" Line Diverter and other system components.

Includes typical air conveying system layouts that increase operating efficiency . . . reduce cost . . . greatly improve plant cleanliness.

This new Flo-Tronics information is yours for the asking.

WRITE FOR YOUR COPY TODAY!

FLO-TRONICS, INC.
air conveyor division
1430 zarthan avenue
minneapolis 16, minnesota

For more details circle NED-78 E1 on enclosed inquiry slip

GOODYEAR

Solid Hit!

Rolling up savings in the toughest shop service are rugged Goodyear Pressed-on Solid Tires. Here's why:

1. Extra-thick tread cushions loads—reduces truck and floor maintenance.
2. Tougher rubber endures chipping, cutting—for longer life on the job.
3. Less friction, smoother starts, easier rolling, help conserve power.

Check your Goodyear dealer today for more facts on cost-cutting Goodyear Solid Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind

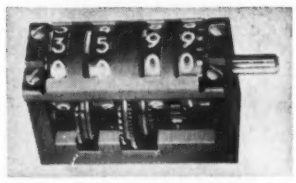
For more details circle NED-79 E1 on enclosed inquiry slip

VINYL STAIR TREAD
has nonslip ribbed safety tread

Special ribbed surface gives the Johnsonite Safe-T-Rib vinyl stair tread a safe, nonslip quality. Tread is 3/16 in. thick, and the ribbed surface extends more than 7 in. from its nosing. It is offered in both round or square nose form and is made in five colors. Lengths range from 2 to 8 ft. Tread will not chip or peel and can be wiped clean with a damp cloth despite its ribbed surface. • **Johnson Rubber Co.**, Special Products Div., 222 Vine St., Middlefield, Ohio.

For more details circle NED-80 E1 on enclosed inquiry slip

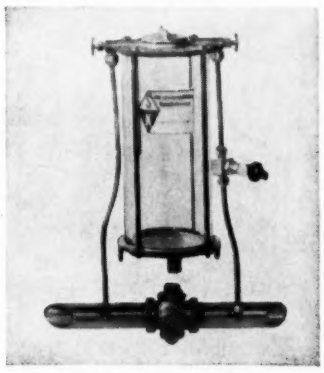
MINIATURE ANGLE COUNTER
000.0 to 359.9-degree readings



Weight of Model 11646 miniature angle counter is more than 50 per cent under that of standard angle counters with the same basic counting configuration. The 1.12-oz unit measures $1\frac{1}{3}$ x 1 x $\frac{3}{4}$ in. and provides readings from 000.0 to 359.9 degrees with characters $\frac{1}{8}$ in. tall. Increasing or decreasing readings of 1/10 degree are provided and a vernier scale on the right edge of the wheel allows reading in 3-min increments. Counter is available with right or left-hand shaft extension and operates continuously in either direction at 200 rpm. • **Bowmar Instrument Corp.**, 8000 Bluffton Rd., Ft. Wayne, Ind.

For more details circle NED-81 E1 on enclosed inquiry slip

WATER TREATMENT DISPENSER
12 lb of agent treats 500,000 gal



One filling of this 12-lb capacity K-1200 automatic dispenser will treat about 500,000 gal of water at the rate of 40,000 to 50,000 gal per pound of Karlsonite water conditioner. Dispenser housing is made of bronze, has a tempered clear Pyrex cylinder, a built-in venturi feed, and an instrument type metering valve. Karlsonite is a complex, nontoxic, phosphate water conditioner which suspends and inactivates elements in water that are harmful to commercial and industrial equipment. • **Stiles-Karlsonite Corp.**, 1550 Grand Ave., Waukegan, Ill.

For more details circle NED-82 E1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-83 E1 on enclosed inquiry slip

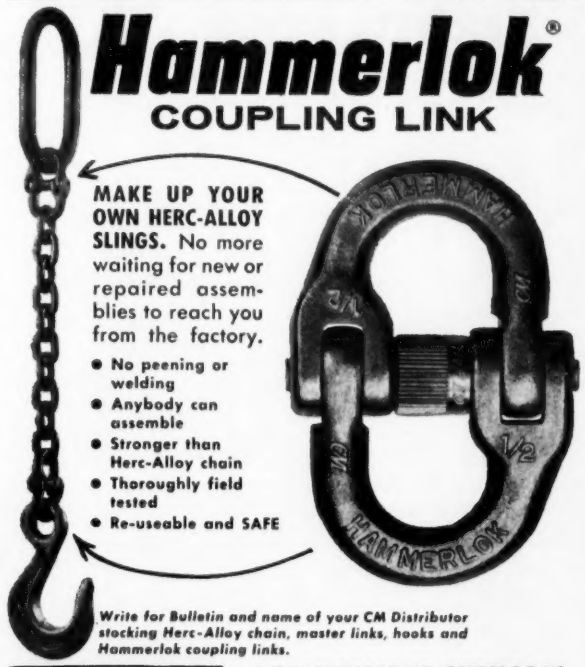
MAKE YOUR DOOR INSTALLATIONS 100% R-W EQUIPMENT

Richards-Wilcox offers one dependable source for all of the equipment necessary to fill a door opening. R-W steel door frames, heavy-duty hardware, track, hangers, industrial doors, fire doors and electric operators, for doors and gates, are all manufactured with precision and care, to meet the requirements of industry . . . and, most important, to fulfill these requirements for years to come. Each unit is made for each other . . . designed to provide quick, economical installation and the ultimate in quality and service. Write today for complete information . . . request Catalog No. A-97 for Industrial Doors; Catalog No. A-95 for Fire Doors and Catalog No. 200 for Electric Industrial Door Operators.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

For more details circle NED-84 E1 on enclosed inquiry slip

Hammerlok® COUPLING LINK



MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Write for Bulletin and name of your CM Distributor stocking Herc-Alloy chain, master links, hooks and Hammerlok coupling links.

RUGGED • DURABLE CM® CHAIN HERC-ALLOY®

COLUMBUS McKINNON CHAIN DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
NEW YORK (Mountainside, N. J.)
CHICAGO • CLEVELAND • SAN FRANCISCO
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

For more details circle NED-85 E1 on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

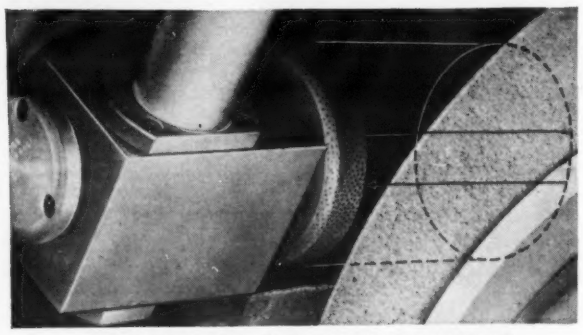
New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1. The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.
2. Scientifically toughened tire rubbers — unsurpassed for resistance to cutting—gouging—hard wear.
3. Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life — both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind
Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-86 E1 on enclosed inquiry slip



NEW TRU-GRIT® ROTARY DIAMOND DRESSING TRAVERSE WHEEL CONTROLS GROUND FINISHES, CUTS COSTS

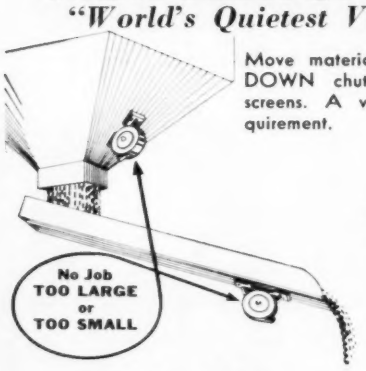
Hundreds of overlapping diamond points produce uniform dress every time, guarantee control of finish on workpiece. Quick, straight pass at regular intervals keeps wheel sharp, free-cutting, uniform. Minimum infeed; almost no wear on dresser or grinding wheel. First set-up lasts until tool is replaced; no downtime each shift. Big savings. Typical power-driven set-up ran for 10,930 dressings and 1,366,512 controlled finish grinds before being replaced. Finishes are within 30-55 rms range. Finer finishes in 12-18 rms range by using contact-driven unit. Write us about your finish objectives.

WHEEL TRUEING TOOL COMPANY
216-3200 W. Davison, Detroit 38, Mich.

For more details circle **NED-87 E1** on enclosed inquiry slip

VIBROLATOR® VIBRATION INDUCERS

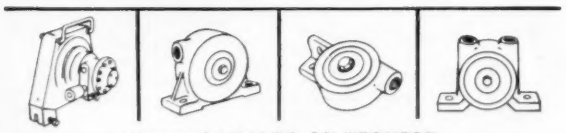
"World's Quietest Vibrators"



Move materials OUT of hoppers, DOWN chutes and THROUGH screens. A vibrator for every requirement.

FEATURES:
- LONG LIFE
- RUGGED
- POWERFUL
- UNIQUE DESIGN
- PATENTED THROUGHOUT
- UNCONDITIONAL GUARANTEE

FREE 30-DAY TRIAL ON ALL SIZES.
Stocking distributors coast-to-coast listed under VIBRATORS in the Yellow Pages.



42-page CATALOG ON REQUEST

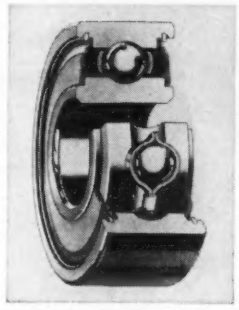
FIND US FAST IN THE YELLOW PAGES

Manufactured by:
MARTIN ENGINEERING COMPANY
Specializing in Applied Vibration
155 Nedlow St., Neponset, Illinois

® VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle **NED-88 E1** on enclosed inquiry slip

SEALED PRECISION BEARINGS for speeds up to 80,000 rpm



Standard Barden precision bearing with a rubbing seal of fiber-aluminum laminate comprises this Flexeal sealed bearing which effectively blocks out dirt and retains its lubricant at speeds up to 80,000 rpm. Unit also tolerates lineal speeds of 6000 fpm and continuous operating temperatures up to 300° F. Typical uses include missile electric power units, turbine fuel pumps, and memory systems. Ten unflanged and three flanged sizes range from 0.3125 to 2.4409-in. OD. • **Barden Corp.**, 200 Park Ave., Danbury, Conn.

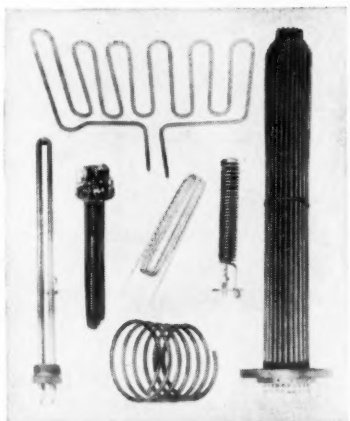
For more details circle **NED-90 E1** on enclosed inquiry slip

SAFE PRESSURE GAGE viewer is protected from explosion

Integrally cast solid wall which separates the Bourdon tube assembly from the ring, safety glass, and dial of the Safe-T-Kase gage afford protection to the viewer. Bourdon tube assembly and movement is accessible for inspection, repair, or recalibration. Back of the case is covered by a spring mounted pressure-releasing plate. Back flange and flush mounted types are available in 4½, 6, and 8½-in. sizes. • **J. E. Lonergan Co.**, 211 Race St., Philadelphia 6, Pa.

For more details circle **NED-91 E1** on enclosed inquiry slip

ELECTRIC HEATING ELEMENTS various materials, configurations



Steel, stainless steel, copper, Inconel, and Incoloy are among the materials used in this line of custom electric heating elements. A wide variety of sizes and shapes is also available on a custom basis. Flanges and heads can be designed to ASA standards or customer specifications. Many types of integral thermostatic controls are optional. • **General Fittings Co.**, Electric Heater Div., Box 151, East Greenwich, R. I.

For more details circle **NED-92 E1** on enclosed inquiry slip

ARE YOU FIGHTING THE ODDS?

BLACK BEAUTY

Your Best Bet is Black Beauty Blast Grit

Grit Does It Better Grit is for Industry

To get surfaces absolutely clean with no deposits, Black Beauty is the fastest cutting, sharpest material known, with *no silicosis hazard to workers.* Faster by actual tests made on sandblasting.

Use standard equipment with much less maintenance. Better working conditions. Get complete facts—save time.

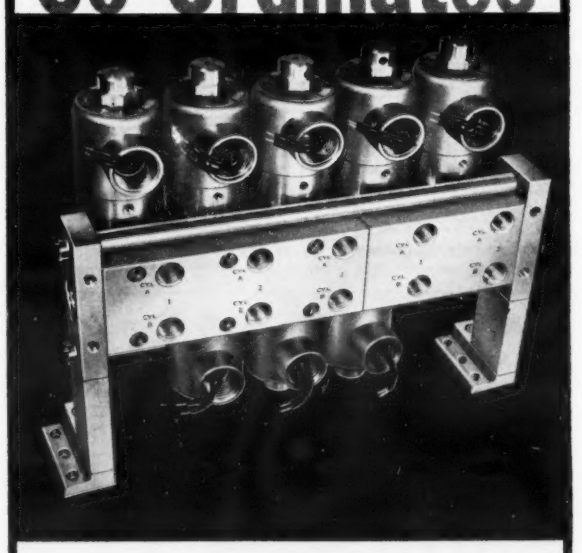
FREE SAMPLE KIT

This sturdy, handy plastic case contains several grades of Black Beauty Blast Grit for your inspection. Write for this kit or a free working sample for an actual trial run.

H. B. REED & CO., INC. 6937 KENNEDY AVE. • HAMMOND, IND.
H. B. REED CORP. 91 PASSAIC ST. • PASSAIC, N. J.

For more details circle **NED-93 E1** on enclosed inquiry slip

UNLIMITED MANIFOLD MOUNTING OF VERSA SERIES "A" SOLENOID VALVES WITH VERSA Co-Ordinates



■ Now...You can mount an unlimited number of Versa Series "A" Solenoid Valves as one integrated unit with these new Versa Co-Ordinate Assemblies. These assemblies make possible simplicity of design in both Hydraulic and Pneumatic operation, because only one inlet is required to feed the entire line of valves. Additional blocks can be added at any time and blocks with and without adjustable built-in bleed controls can be used together in one unit. ■ Combined with Versa Series "A" Valves these Co-Ordinates provide the most flexible and reliable Multiple Solenoid Valve Assemblies in the Control Valve field. Write for Bulletin #960.

VERSA Valves

VERSA PRODUCTS COMPANY, INC.
150N COOLIDGE AVE., ENGLEWOOD, NEW JERSEY

For more details circle **NED-94 E1** on enclosed inquiry slip

WILSHIRE NEW 4400 INDUSTRIAL POWER SWEEPER

- Variable Speeds
- Sweeps 68" path
- Holds ½ ton

CUT SWEEPING COSTS WITH THIS MAINTENANCE-FREE SWEEPER

engineered so the Maintenance Department can Add to the Net Profit of your company!

An 18 HP, 2-cylinder, 4-cycle gasoline engine powers the all-new 4400 sweeper. Two speed transmission. One foot pedal controls forward, reverse and hopper dump. Heavy duty drive chain runs in oil—permanently sealed. Self-adjusting idler pulleys. Operator controls pressure of full floating main broom and side brushes. Exclusive 12-bag filtering system. Covers a minimum of 120,000 sq. ft. per hour.

TOUGH...POWERFUL...DEPENDABLE

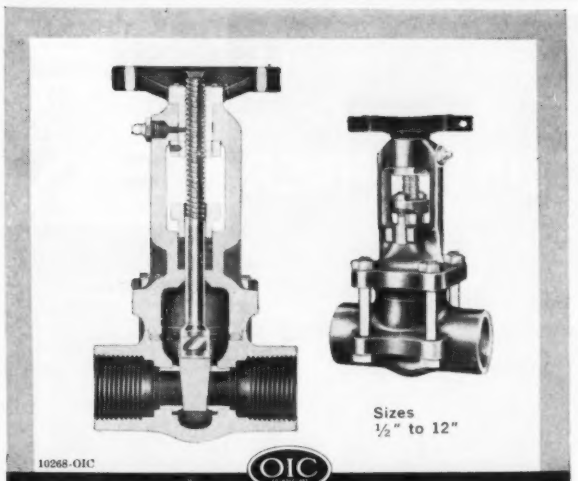
Rough treatment and constant use won't hurt this solid steel "baby." The Wilshire 4400 is plenty rugged, yet simple to operate and fully maneuverable even in crowded areas. Insist on a competitive demonstration before you buy. For guaranteed machine amortization, specify the new Wilshire 4400—*tops in power sweepers!*

SEND FOR PROOF TODAY!
WILSHIRE POWER SWEEPER CO., Dept. NED-561, Toledo 2, Ohio
Please rush literature and specifications. ☐ We would also like a free demonstration.
Name_____ Title_____
Company_____
Address_____
City_____ State_____

LINCOLN

LINCOLN Floor Machinery Co. and WILSHIRE Power Sweeper Co.
divisions of AMERICAN-LINCOLN CORPORATION

For more details circle **NED-89 E1** on enclosed inquiry slip



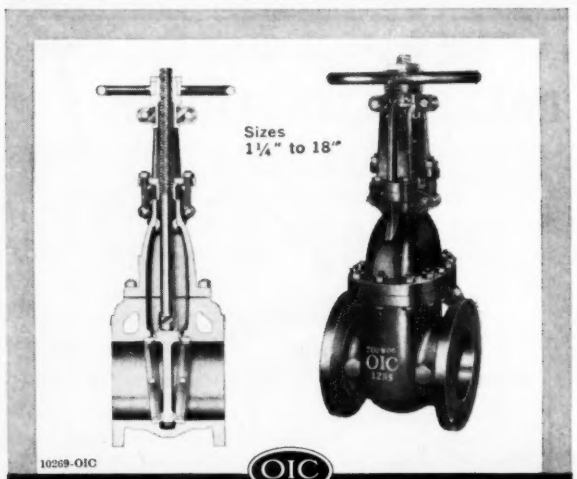
OIC

CORROSION, IMPACT & DAMAGE RESISTANT
DUCTILE IRON VALVES

Service: Damage, impact and corrosion resistance combined with entirely new design provides heavy-duty service over a wide range of applications.
Type: Gates.
Connections: Screwed or Flanged.

Send for Ductile Iron Valve Catalog today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-95 E1** on enclosed inquiry slip



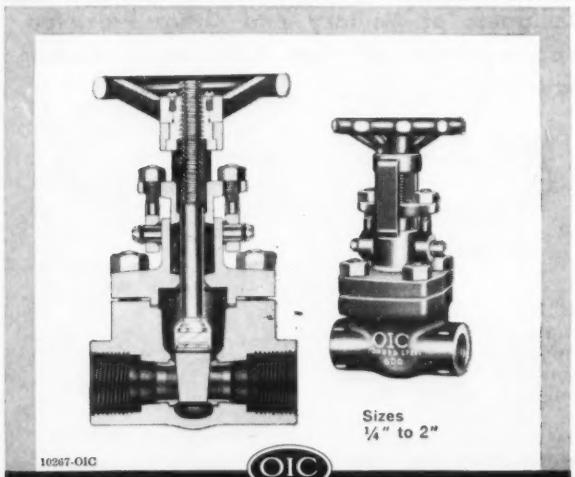
OIC

HEAVY-DUTY
IRON VALVES

Service: Low original cost, combined with easy maintenance, resistance to corrosion and tight seating under all operating conditions.
Types: Gates. Globes. Angles. Checks.
Connections: Screwed and Flanged.

Send for Iron Valve Catalog today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-96 E1** on enclosed inquiry slip



OIC

HIGH PRESSURE/TEMPERATURE
FORGED STEEL VALVES

Service: Recommended for 2000 PSIG at 100° F., 800 PSIG at 850° F. and other adjusted Pressure-temperature ratings from —20° F. to 1000° F.
Types: Gates. Globes. Angles. Checks.
Connections: Screwed, Flanged or Socket-weld.

Send for Catalog Digest today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-97 E1** on enclosed inquiry slip

PAINT SPRAY SYSTEM
low pressure unit fits on paint can

All types of paints, including multicolor and sand finishes, are sprayed by the No. 60G spray painter, a low pressure unit that operates off a Hyde No. 60B electric air blower or a tank or cannister vacuum cleaner. One adjustment is required for amount of paint and size of spray pattern. Spray unit fastens to any regular 1-qt paint can and creates little overspray, as paint is not atomized. Price of vacuum cleaner type gun is $12.95. The complete outfit for industrial use includes sprayer, air blower, hose, and accessories in a steel carrying case and lists for $73.40. • **Hyde Mfg. Co.,** Dept. G, Eastford Road, Southbridge, Mass.

For more details circle **NED-98 E1** on enclosed inquiry slip

BRAKE CASTER
in 1¾ and 2-in. sizes

Series 62-284 and 62-6284 braking-type casters for appliances, office equipment, wood or metal furniture, and other mobile equipment are furnished with black phenolic, polystyrene, or rubber wheels in 1¾ and 2-in. sizes. Casters are assembled with a stem that includes a brass ring, providing friction inside the socket to hold the caster in place. A grip socket is optional. The top-bearing casters are supplied in bright steel or zinc-plated finishes. • **National Lock Co.,** 1902 Seventh St., Rockford, Ill.

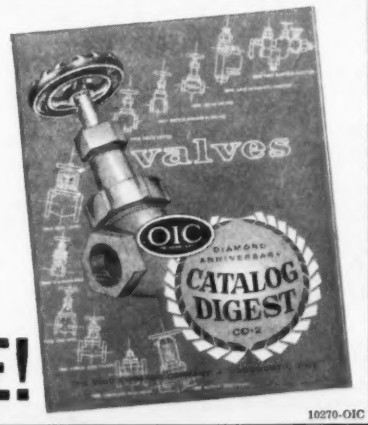
For more details circle **NED-99 E1** on enclosed inquiry slip

RELATIVE HUMIDITY RECORDER
records on 12-in., 24-hr chart

Direct-reading 100J Series relative humidity recorder is made in four portable or wall mounting models. The 25-lb unit records on a 12-in. chart over a 24-hr period. It measures within limits of 0 to 100 per cent relative humidity and records dry-bulb temperatures to 100° F on the same chart. Accuracy of treated nylon actuating elements minimizes rezeroing. Unit features built-in temperature compensation and excellent repeatability. • **Taylor Instrument Co.,** 95 Ames St., Rochester 1, N. Y.

For more details circle **NED-100 E1** on enclosed inquiry slip

26 pages illustrated



FREE!

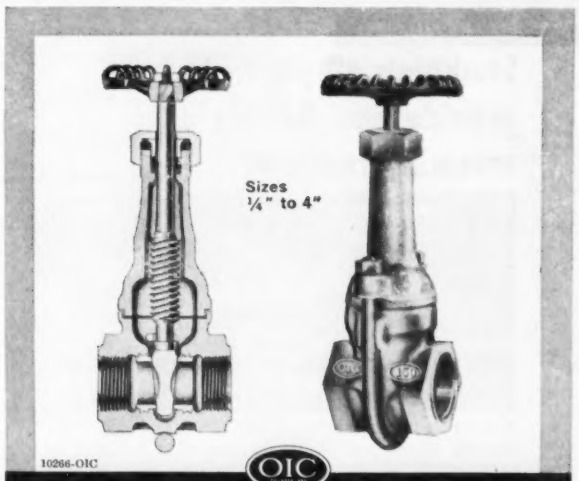
10270-OIC

APPLICATIONS • TYPES • SPECIFICATIONS
COMPLETE VALVE LINE

Act today . . . send for this comprehensive digest of one of the broadest lines of valves in the business. Cutaway illustrations and charts show dimensions, variations and trim specifications for bronze, iron, cast steel and forged steel valves.

OIC **THE OHIO INJECTOR COMPANY**
239 Main Street, Wadsworth, Ohio

For more details circle **NED-101 E1** on enclosed inquiry slip



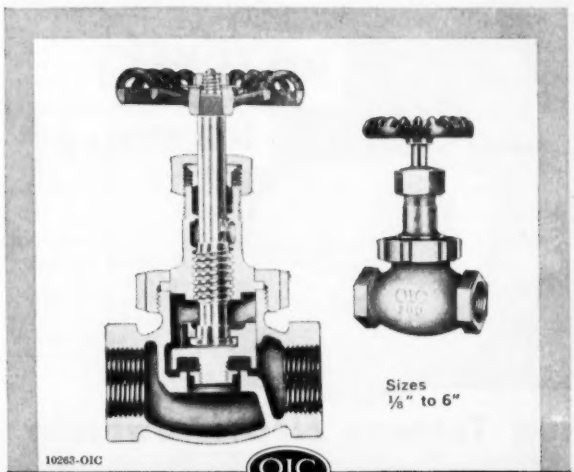
OIC

QUICK ASSEMBLY
DUO-BOLT GATE VALVES

Service: For use where requirements call for rugged economical valves that can be easily assembled and disassembled.
Trim: All iron or bronze.
Connections: Screw or Flanged.

Send for Duo-Bolt Valve Catalog today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-102 E1** on enclosed inquiry slip



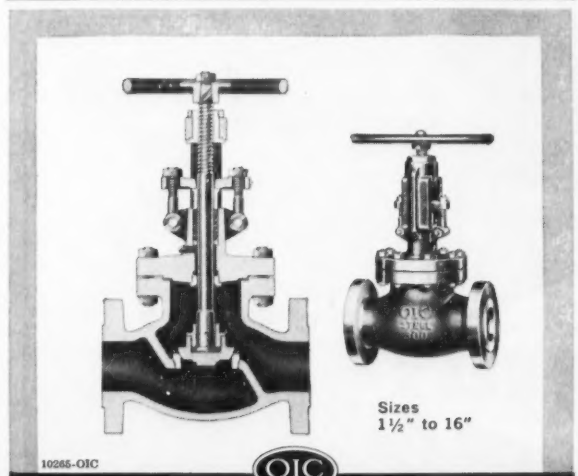
OIC

NEW ALLOY-40 STEM
BRONZE VALVES

Service: Designed for maximum life and easy maintenance in water, steam, oil and gas service. OIC Alloy-40 stems outlast ordinary stems 10-20 times.
Types: Gates. Globes. Angles. Checks.
Connections: Screwed, Flanged, Brazed or Soldered.

Send for Catalog Digest today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-103 E1** on enclosed inquiry slip



OIC

FOR HEAVY-DUTY PROCESSING SERVICE
CAST STEEL VALVES

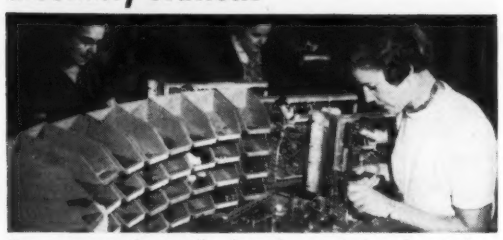
Service: Specify OIC cast steel valves when operating conditions demand continuous reliability and low maintenance costs.
Pressures: 150, 300 and 600 pound pressure classes.
Types: Gates. Globes. Angles. Checks.
Connections: Flanged or Butt-welded.

Send for Catalog Digest today.
THE OHIO INJECTOR COMPANY
239 Main Street, Wadsworth, Ohio

For more details circle **NED-104 E1** on enclosed inquiry slip

AT RAYTHEON:

Stackbin's all-plastic bins provide fast, flexible assembly stations



New, non-corrosive, easily cleaned . . . stack and restack securely in tight semicircular arrangement to suit changing requirements . . . molded card holders on fronts for fast, easy parts identification . . . sloping bottom for easy parts accessibility.

Custom fitting, plastic insert doubles the number of different components you can handle without increasing space requirement.

FREE FACTS Write for new product bulletin and prices. All Stackbin products sold direct.

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM "Stacked and Still Accessible"

For more details circle **NED-107 E1** on enclosed inquiry slip

SO QUIET you can hardly hear it . . . so efficient it gets dirt other sweepers miss . . . so economical it often pays for itself in a year!

New Tennant *Electric* Sweeper

● You'll like the quiet dependability of this new battery-powered TENNANT "80-E" Sweeper! It's exclusively "aisle-designed" to clean aisles up to 8½ ft. wide in one round trip. And in open areas it easily sweeps more than 90,000 sq. ft. per hour.

Sweeps full shift on a single battery charge under normal operating conditions.

WRITE TODAY *for illustrated bulletin!*

- Sweeps 42" path with main brush (53" with sidebrush).
- Sweeps clean at all speeds. Has dual 24 v motors—one for travel, one for brush-vacuum.
- Efficient vacuum, 4200 sq. in. filter assure CLEAN sweeping.
- Economical to operate and maintain, especially under dusty sweeping conditions.
- 12 cu. ft. hopper; dumps hydraulically in 10 seconds.

TENNANT *Industry's Most Widely Used* **POWER SWEEPERS**

G. H. TENNANT COMPANY • 715E NO. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

For more details circle **NED-108 E1** on enclosed inquiry slip

Send for **FREE** new 1961 **EICO** Electronics Catalog

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☐ Send free 32-page catalog & dealer's name
☐ Send new 36-page **Guidebook to HI-FI** for which I enclose 25¢ for postage & handling.
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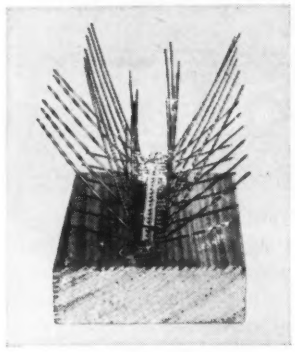
City ..... Zone ... State .....

EICO 3300 N. Blvd., L.I.C. 1, N.Y. ...praised by the experts as Best Buys in Electronics

For more details circle **NED-109 E1** on enclosed inquiry slip

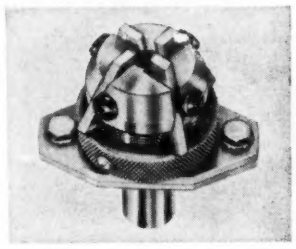
BIRD BARRIER made in 2 and 4-ft, 16-in. lengths



Porcupine-like Model G-60 bird barrier is designed to rid buildings of starlings and sparrows. It is also generally effective against pigeons. Made of stainless steel, the product is suspended ½ in. above the surface of a building by a clip which gives it a "floating" action. A flexible base bar permits installation anywhere birds might roost—on ledges, columns, signs, and guy wires. Available lengths are 2 and 4 ft and 16 in. ● **Nixalite Co. of America**, 1722 First Ave., Rock Island, Ill.

For more details circle **NED-110 E1** on enclosed inquiry slip

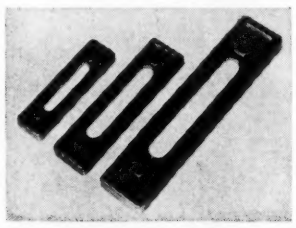
HOLLOW MILLS have built-in aligning feature



Aligning type hollow mills, designed primarily for Brown & Sharpe and Davenport automatics, are made with straight shanks. A built-in aligning feature permits correcting for any machine misalignment. Mills eliminate separate holders and shorten tool overhang. Styles X and R are recommended for machining materials requiring tools with positive and zero cutting rake, respectively. Capacities range in ⅛-in. increments from 0 to ⅜ in. ● **Genesee Mfg. Co.**, 566 Hollenbeck St., Rochester 21, N. Y.

For more details circle **NED-111 E1** on enclosed inquiry slip

OIL LEVEL GAGES have 4, 6, and 8-in. sight openings



Interchangeable parts of Type 550 flush mounting oil level gages provide them with components compatible with petroleum products, fire resistant fluids, and various other liquids. The direct reading units afford an instant visual check on the oil levels of hydraulic and lubricating oil reservoirs. Installation requires drilling two small holes in the reservoir. Three standard sizes have 4, 6, and 8-in. sight openings in a cast aluminum frame. The Plexiglas or tempered glass window is backed with white for high visibility. O-ring seals are incorporated. ● **Federal Brass Mfg. Co.**, 809 W. Second St., Elmira, N. Y.

For more details circle **NED-112 E1** on enclosed inquiry slip

MEASURE CO DIRECTLY WITH THE monoxor® CARBON MONOXIDE INDICATOR

THIS REMARKABLY SIMPLIFIED INSTRUMENT INDICATES CARBON MONOXIDE PERCENT IN THE AIR SAMPLE TESTED BY MEASUREMENT OF CO-STAIN IN THE INDICATING TUBE.

- ✓ Requires no color matching — is independent of operator's color perceptiveness.
- ✓ Accurate and dependable over wide range of lighting conditions.
- ✓ Not affected by presence of other gases normally encountered in safety testing (nitrous oxide, sulphur dioxide, methane, etc.)

RANGES:
0-0.2% CO (0 to 2000 Parts CO per Million Parts of Air)
0-0.5% CO (0 to 5000 Parts CO per Million Parts of Air)

M-31A *For complete particulars, send for Leaflet 890C*

BACHARACH INDUSTRIAL INSTRUMENT CO., 200 N. BRADDOCK AVE., PITTSBURGH 8, PA.
Send me a copy of MONOXOR CO Indicator LEAFLET 890C

NAME ..... POSITION .....
COMPANY .....
STREET .....
CITY AND STATE .....

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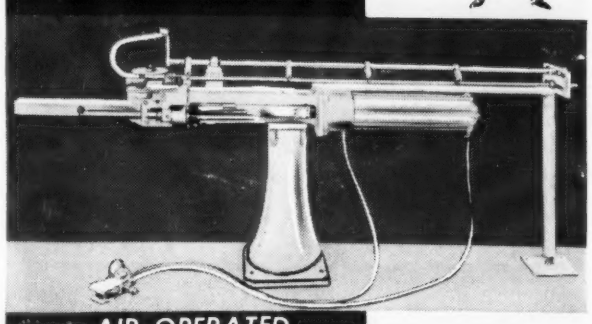
WORLD'S FAMOUS *Automatic* TUBE BENDER

LOW COST
HIGH PRODUCTION
HEAVY DUTY
COMPACT



AIR OPERATED BEND-EX MODEL A6T

Bends all metal tubing. Steel, aluminum, brass, copper, stainless steel. This compact model is not only the fastest but the most economical bender ever built. For mass production and custom qualities. So simple anyone can operate. Guarantees quality and speed. Leasing program available. Write for details.

For all types of Bending
- FURNITURE
- APPLIANCES
- AIRCRAFT
- AUTOMOTIVE
- AIR CONDITIONING
- METAL CABINETS
- TOYS

PAUL MACHINE TOOL & DIE WORKS
4600 S. Kedzie Dept. ND
Chicago 32, ILL.

For more details circle **NED-114 E1** on enclosed inquiry slip

Tubar HYDRAULIC PALLET LIFT TRUCK

HIGH QUALITY! VERSATILE!
4400 lbs. Capacity F.O.B. Factory **$395.00**

MODEL 44

Specifications

Load Capacity	4400 lbs.
Fork height from floor	Lowered 3¼"
	Raised 8"
O. A. Width	23½" or 27"
Fork Length	36", 42" or 48"
Fork Width	6"
*Steer Wheels	8x2
*Load Wheels	3x3
Steering	180°

*Std. wheels are steel, floorsaver wheels optional at additional cost.

Ruggedly built, designed for hard usage. Fully automatic, forks are raised by pumping tow handle. Entry rollers in the end of forks facilitate easy entry into a pallet. Highly maneuverable truck pivots 90° in either direction. Can be used with single or double faced pallets.

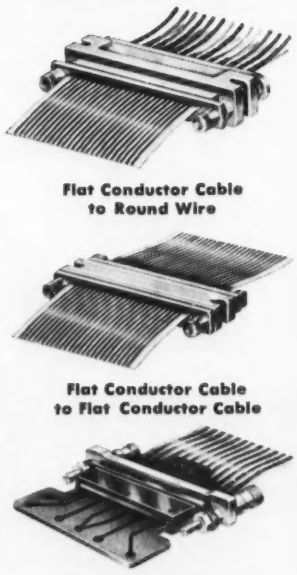
This model is furnished with your choice of 36", 42" or 48" fork lengths and 23½" or 27" overall fork widths at no extra cost.

There's a TUBAR man near you . . . write to:
UHRDEN, INC.
DENNISON OHIO

For more details circle **NED-115 E1** on enclosed inquiry slip

Designers of Military and Other Precision Applications of Flat Conductor Cable now use . . .

POS-E-KON Trademark
SOLDERLESS CONNECTORS



Reliable POS-E-KON connectors feature direct conductor contact—easy assembly — reduced weight and bulk. Standard designs available now for interconnecting or terminating flat multi-conductor cable or flexible printed circuitry. Write to The POS-E-KON Division, The Thomas & Betts Co., Elizabeth 1, N. J. (In Canada, Thomas & Betts Ltd. Montreal).

T&B ENGINEERED THOMAS & BETTS

For more details circle **NED-116 E1** on enclosed inquiry slip

- 6 Different Ranges: From 0-100 lbs. up to 0-50,000 lbs.
- Triggers motors, rings bells, operates warning devices, etc.
- Protected against accidental overloading.
- Tensile or Compression Models available.
- Furnished with from 1 to 4 adjustable switches for controlling forces at various load points.
- Can be set for most critical accuracy.

WHAT CAN IT DO FOR YOU?
Write for specifications, profusely illustrated literature and low price schedule . . . free!

W. C. Dillon & COMPANY, INC.
DEPT. 119, 14578-2 KESWICK ST., VAN NUYS 75, CALIF.
For more details circle NED-117 E1 on enclosed inquiry slip

from paper to steel a Dillon UNIVERSAL TESTER *will test them all!*

Whether you are working with metal, plastics, wire, rubber, springs, etc., an inexpensive DILLON Tester will make *hundreds* of accurate checks daily in your shop. Universal! Operates in tensile, compression, transverse or shear. Handles round, flat or special shapes. Two different machines – Model M for low strength materials between 0 and 300 lbs., and Model L for materials up to 125,000 lbs. PSI tensile. Hand wheel operated or motorized. Wide range of gripping fixtures.

Model L at right shown on stand. 7 interchangeable gauges provide wide range. All equipped with max. indicator. Model M at left is pendulum type. Has 5 scales. Meets ASTM & Fed. specs.
Write TODAY for brochures and LOW price schedule.

MODEL L

W.C. Dillon & CO., INC.
DEPT. 119, 14578-5 KESWICK ST., VAN NUYS 75, CALIF.
For more details circle NED-118 E1 on enclosed inquiry slip

Dillon Force Gauge

MEASURES TENSILE OR COMPRESSION LOADS

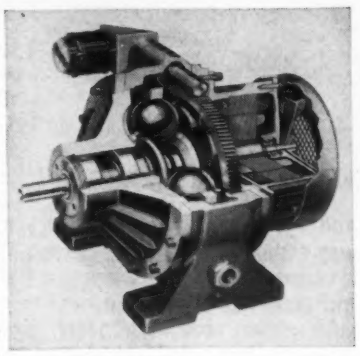
- Accurate to within 1% of full scale capacity.
- Jewelled dial indicator repeats perfectly.
- Shockless mechanism for rough jobs.
- Red maximum pointer registers peak loads.
- Optional switch controls mechanisms.
- Accommodates wide variety of attachments.
- Available as combination push-pull model.
- Extremely compact. Fits into "tight" spaces.
- Flexes millions of cycles without damage.

WRITE FOR FREE ILLUSTRATED CATALOG AND PRICE LIST P-56

12 different capacities from as low as 0-10 lbs. up to as high as 0-50,000 lbs.

W.C. Dillon & CO., INC.
DEPT. 119, 14578-4 KESWICK ST., VAN NUYS 75, CALIFORNIA
For more details circle NED-119 E1 on enclosed inquiry slip

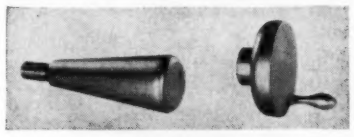
VARIABLE SPEED DRIVE
has integral pancake type motor



Sizes from 1/3 to 15 hp with variable output speeds in 9:1 and 6:1 ranges are available in the motorized Speed Variator variable speed drive. The integral pancake air-gap type motor conforms to NEMA Design B specifications. Precise, repeatable speed settings can be made. Its output speed is smoothly adjusted while operating under load. • **Eaton Mfg. Co.**, Cleveland Worm & Gear Div., 3300 E. 80th St., Cleveland 4, Ohio.

For more details circle NED-120 E1 on enclosed inquiry slip

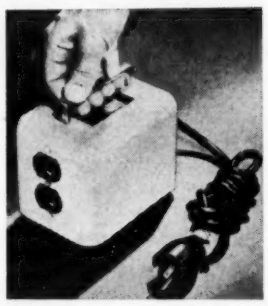
MACHINE HANDLES & KNOBS
with and without chrome plating



Conical shaped machine handles, in both revolving and solid types, are available in three sizes with over-all lengths from 3 1/16 to 4 11/16 in. All have a 7/16-in. diameter shank for press fitting. Fastrol small diameter hand knobs in five sizes with diameters from 1 to 3 in. are offered with or without a handle for easy turning. Both are made from steel with a high luster. Chrome plating is optional. • **Balcrank, Inc.**, Machine Tool Div., 10 Disney St., Cincinnati 9, Ohio.

For more details circle NED-121 E1 on enclosed inquiry slip

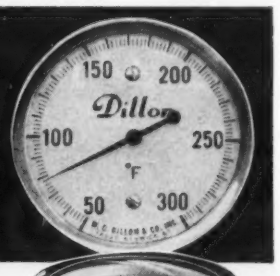
LOW VOLTAGE TRANSFORMER
reduces 125-v ac to 32 or 12-v ac



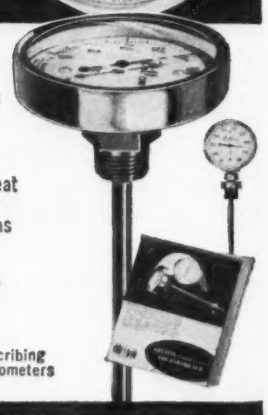
Portable and compact C & E transformer makes possible safe use of low voltage lights when working in damp buildings, on grounded locations, or inspecting tanks and boilers. The 9-lb 10-oz unit reduces primary 125 v ac (250 v ac is optional) to a secondary of 32 or 12 v ac. It is rated at 150 w, allowing for the use of two 75-w low voltage bulbs. Primary side has a 6-ft No. 16/3, Type SO cord with U-blade ground plug cap. The secondary side has two U-blade grounding receptacles for use of two extension lights, available as accessories. Both sides of the 6 1/8 x 4 3/8 x 4 3/4-in. unit are grounded. • **Ericson Mfg. Co.**, 1660 Hayden Ave., Cleveland 12, Ohio.

For more details circle NED-122 E1 on enclosed inquiry slip

Investigate the Dillon Stainless Steel Thermometer



- 12 Fah & Cen ranges for gases or liquids
- 1", 1 11/16", 2 5/16", 3", 5" head sizes
- Stem lengths from 2 1/2" to 72"
- Straight form or angle form
- Choice of mounting nuts
- Pressure & moisture proof. Overheat protected.
- Corrosion resistant (bezels & stems made of 316 ss)
- Exclusive bi-metal coil, individual calibration insure utmost accuracy
- Screw-in or surface float
- Special models & ranges to order



YOURS FREE! Engineering catalog describing more than 100 models of Dillon Thermometers and quoting prices. Write today!

W. C. Dillon & COMPANY, INC.
DEPT. 119, 14578-3 KESWICK ST. VAN NUYS 75, CALIFORNIA
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For more details circle NED-123 E1 on enclosed inquiry slip

READ WEIGHT ON-THE-SPOT— OR REMOTELY! and CONTROL LIFTING FORCE TO A HAIR!

with Dillon crane scales, dyna-switches and remote-indicating load cells!

Here is a combination that covers almost every weighing and force control need in the average shop. Model "P" Scale is *sealed by the Los Angeles Bur. of Wts. & Measures* and is legal for trade. Life-saving Dyna-Switches prevent crane and hoist overloading. Dillon Load Cell Systems permit reading of crane loads *from a distance*...also provide *remote measurements of force and stresses in dangerous or confined areas!*

VALUABLE FREE ENGINEERING BROCHURES
If your responsibilities include safety, material handling or weighing and force measurement, this data is a **must!** Specify brochures desired: Crane Scales ☐ Dyna Switches ☐ Load Cells ☐

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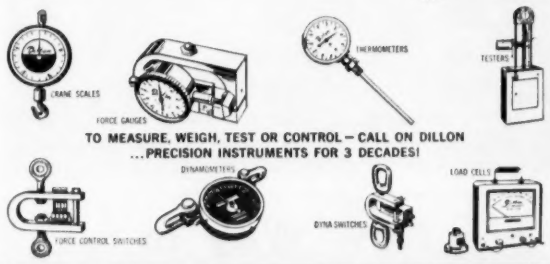

TO MEASURE, WEIGH, TEST OR CONTROL – CALL ON DILLON ...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. Dillon & COMPANY, INC.
DEPT. 119, 14578-1 KESWICK STREET, VAN NUYS 75, CALIFORNIA
Representatives in All Principal Cities
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Measure* TENSILE WEIGHT · TORQUE COMPRESSION *–anywhere!

with a portable **Dillon Dynamometer**

- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatter-proof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE! Profusely illustrated catalog showing applications and prices. Write **today!**

W. C. Dillon & COMPANY, INC.
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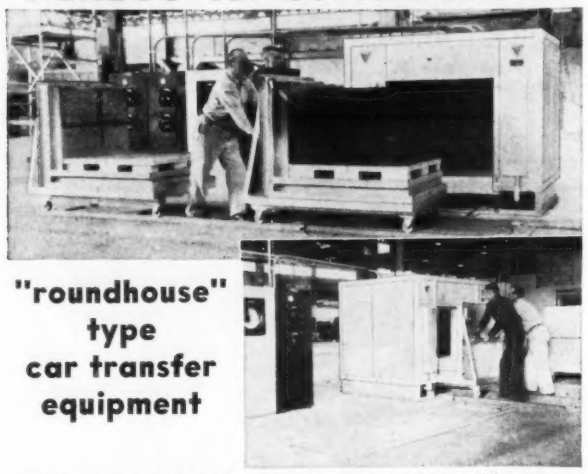
For more details circle NED-125 E1 on enclosed inquiry slip

NEW PERECO car-bottom KILN



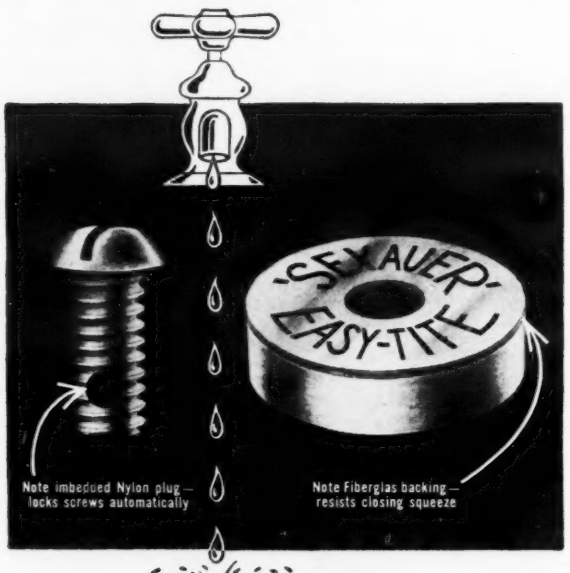
"roundhouse" type car transfer equipment

Floor-level turn table with interchangeable cars permits firing one carload while reloading the next car. Car itself serves as hearth and door. Saves setting time. Features ease of placing or removing load. Eliminates old-fashioned trackage and transfer equipment. Just the unit for quantity firing of small electronic, ceramic, or ferrite parts—in all normal air operations up to and including 2500° F. (2700° F available). Accurately adjustable power and temperature controls mounted in matching panels. Unit available as shown, or with modifications to meet specific requirements.

Standard or Special Furnaces and Kilns for temperatures from 450° F to 5000° F.

PERENY EQUIPMENT CO., Inc.
Dept. "G", 893 Chambers Rd., Columbus 12, O.

For more details circle **NED-126 E1** on enclosed inquiry slip



New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-51
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Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
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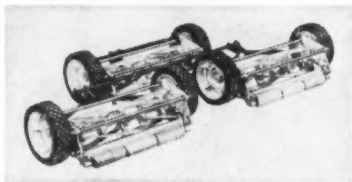
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-127 E1** on enclosed inquiry slip

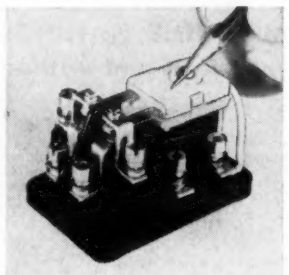
GANG LAWN MOWER
composed of three 30-in. units



Universal hitch for a wide range of tractor types is a feature of the Trio-Rig 90 heavy duty gang mower. It is composed of three 30-in. cutting units and a towing frame, and has a total cutting width of almost 90 in. With its Syncro-Mow cutting reels are synchronized to mowing speed for the most satisfactory universal cut. Each unit has five self-sharpening blades and pinion and ring gears protected from dirt and moisture by sealed sideplates. • **American Chain & Cable Co.**, Pennsylvania Power Mower Div., Exeter, Pa.

For more details circle **NED-128 E1** on enclosed inquiry slip

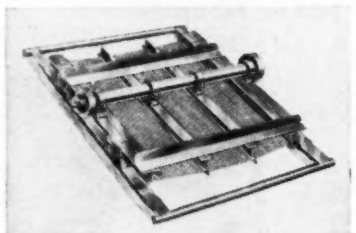
MULTIPOLE RELAYS
coils for up to 230 v ac, 115 v dc



Designed for industrial electronic control use, Nyline multipole relays are compact magnetically-operated units available in 2, 3, and 4-pole double-throw forms. All can be equipped with coils for operation up to 230 v ac and 115 v dc. The four-pole model measures 2⅝ x 1⅛ x 1 29/32 in. The 10-amp contacts are self-aligning and self-cleaning. • **Ward Leonard Electric Co.**, 115 S. MacQuesten Parkway, Mt. Vernon, N. Y.

For more details circle **NED-129 E1** on enclosed inquiry slip

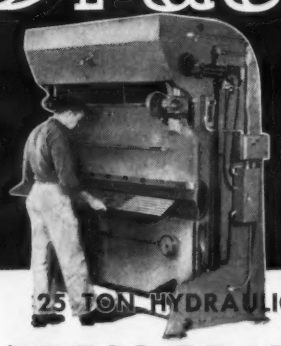
VIBRATING SCREENS
sizes from 18 x 30 to 60 x 72 in.



Wide variety of general industrial refining applications is served by Rhumba vibrating screens which are designed for a minimum of vibration transmission to the floor. Units operate at 1800 rpm with vibration amplitude secured by variable off-center weights, eccentric shaft, or combination of the two. Underslung mounting prevents screen whipping and flexing for maximum service life. Screens are made in 13 basic single and double-deck, open and enclosed models in sizes ranging from 18 x 30 to 60 x 72 in. Type A is mounted on H-beam skids and Type B is mounted on a structure which includes slurry tanks. • **Hutchison Mfg. Co.**, 6609 Avenue U, Houston 11, Tex.

For more details circle **NED-130 E1** on enclosed inquiry slip

Di-acro



25 TON HYDRAULIC

PRESS BRAKE

Operator has complete control at all times. He pre-sets the stroke length and speed, and can "inch" or reverse the ram at any point. Dual speed operating cycle prevents whipping or kinking—increases production. Either 6 or 8 foot bed models. Also available in a 12 ton series, practical for sample work and both short and long run production. Ask your Di-Acro distributor for details or write us.

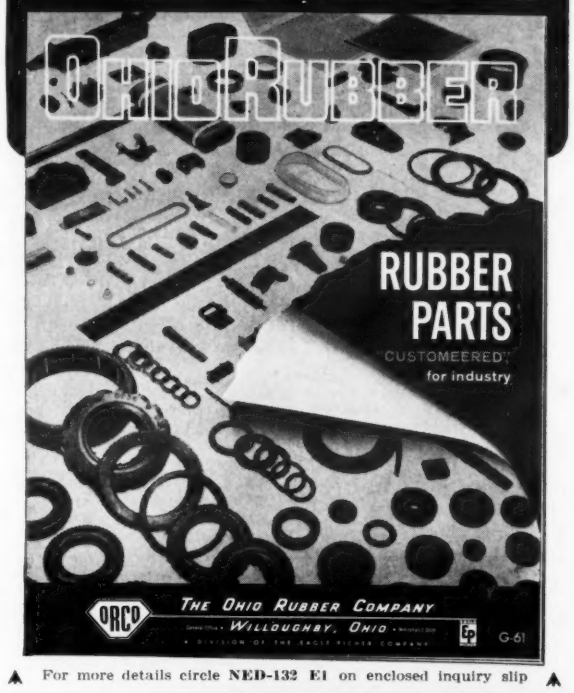
pronounced "di-ack-ro"

DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
785 Eighth Ave. • Lake City, Minn.

SEE DI-ACRO MACHINES IN ACTION AT ASTE-SHOW BOOTH 1404 MAY 22-26, 1961 COLISEUM—NEW YORK CITY

For more details circle **NED-131 E1** on enclosed inquiry slip

Free! New Rubber Data for Better Parts Design



For more details circle **NED-132 E1** on enclosed inquiry slip

BIF Omega **ROTODIP feeder . . . for precision feeding . . . low maintenance!**

- Reduce materials loss . . . feed exact dosages . . . continuously! Designed for low maintenance, long life . . . corrosion-resistant materials used as required. Automatic pacing, if desired.
- ACCURACY . . . within ±1% of calibrated rate
- CAPACITY . . . maximum rates up to 1800 gph
- FEED RANGE . . . up to 100 to 1

Request Bulletin 65.20-1 for details. Write **B-I-F Industries, Inc., 425 Harris Ave., Providence 1, Rhode Island.**

B-I-F Industries
BUILDERS-PROVIDENCE • PROPORTIONEERS • OMEGA METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

For more details circle **NED-133 E1** on enclosed inquiry slip

KATOLIGHT *supplies* EMERGENCY POWER *for* BOMARC MISSILE BASES!

400 KW KATOLIGHT Power Plants like this stand ready to supply instant emergency power at U. S. Bomarc Missile Bases.

Many industries and institutions over the world depend on Katolight standby power.

...And for SWEDISH HOSPITAL, Seattle!

Among the many up-to-date hospitals and institutions that are Katolight equipped against power failure is SWEDISH HOSPITAL, Seattle, Wash.

DEPENDABLE KATOLIGHT POWER PLANTS FOR EVERY EMERGENCY PORTABLE OR CONTINUOUS POWER NEED. 500 Watts to 1,000 K.V.A. Gasoline, Diesel or Gas fueled.

WRITE FOR DETAILS

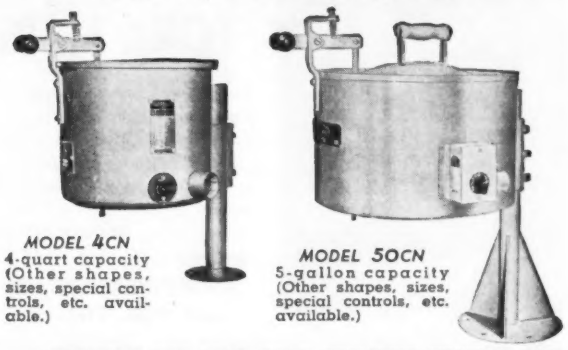
KATOLIGHT CORPORATION BOX 891-76 MANKATO, MINNESOTA

For more details circle **NED-134 E1** on enclosed inquiry slip

Sta-Warm ELECTRICALLY HEATED

DISPENSING TANKS AND POTS

From 2 quarts to 1000 gallons



MODEL 4CN
4-quart capacity
(Other shapes, sizes, special controls, etc. available.)

MODEL 50CN
5-gallon capacity
(Other shapes, sizes, special controls, etc. available.)

• DESIGNED FOR FAST, EASY, EFFICIENT HEATING AND DISPENSING OF ASPHALT, PITCH, WAXES, THERMO-PLASTICS, ADHESIVES, etc.

• Sta-Warm engineers and builds a complete line of standard or special melters and dispensers to meet YOUR production line requirements.

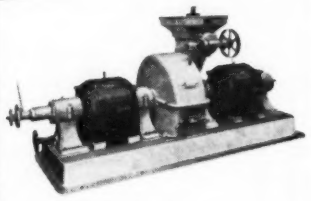
WANT A CATALOG? WRITE TODAY.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle **NED-135 E1** on enclosed inquiry slip ▲

"Robinson" Single and Double Runner ATTRITION MILLS



pneumatic conveying ○ materials handling ○ mixing ○ sifting ○ cutting ○ grinding ○ crushing

Widely used for reducing crushed oil cake, pre-cut tobacco stems, tankage, sawdust, wood flour, spices, cracked shells, cotton seed, copra, cocoa nibs, chips, grains, soap powder, cereals, hulls, bran and similar products. Ask for Bulletin A-560-A-1

The YOUNG Machinery Company, Inc.
(Robinson Division)
Muncy, Pennsylvania

Y/106

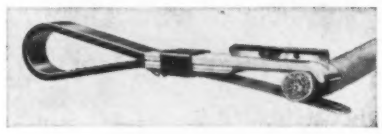
▲ For more details circle **NED-136 E1** on enclosed inquiry slip ▲

BURRING & SHARPENING TOOL
has carbide insert type blades

Capacity to edge-burr sheet metal, plastic, or glass up to 1/16 in. wide is built into the standard burring and sharpening tool. Special blades are available for widths over 1/16 in. A cam advances the carbide insert type blade to compensate for wear at the blade intersection. Milled and counterbored cast aluminum handle positively locates both blade and cam. Other uses include sharpening of knives, axes, shovels, paint scrapers, and other tools. • **Crodian & Co.**, 4897 Kessler Blvd., Indianapolis 20, Ind.

▲ For more details circle **NED-137 E1** on enclosed inquiry slip ▲

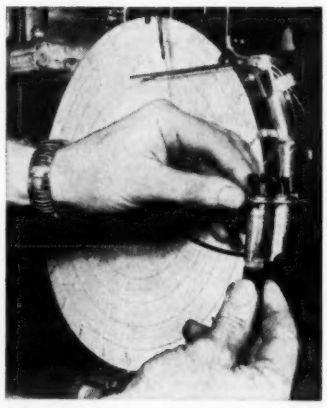
CABLE SHEATH CUTTER
cuts plastic and fabric insulation



An accurate 0.03125-in. deep cut is made in the sheathing of "inside type" plastic, fabric, or rubber covered cable when the No. N-2060 cable tool is rotated around it. The cable is pushed into the tool and against a spring; back pressure holds it against the cutting blade. Ring-cutting tool is suited for inside type 3/16, 1/4, 3/8, and 1/2-in. cables, but will handle thin-sheathed cable with diameters up to 1 in. Price is $7.40. • **P. K. Neuses, Inc.**, 511 N. Dwyer St., Arlington Heights, Ill.

▲ For more details circle **NED-138 E1** on enclosed inquiry slip ▲

RECORDER MARKING DEVICE
ink cartridge lasts several months



Savings in service time and costs and improvements in recording reliability are realized by installation of the Esterbrook ink cartridge marking device on existing recorders. It substitutes a capillary system that draws ink from a disposable cartridge for a manually-filled open system. Ink supply lasts several months and is not subject to clogging caused by dirt, dust, and moisture. The transparent plastic cartridge assures visibility of the ink supply at all times. It is used and quickly replaced in circular, strip, miniature, and plotting recorders. • **Esterbrook Pen Co.**, Delaware & Cooper Streets, Camden 1, N. J.

▲ For more details circle **NED-139 E1** on enclosed inquiry slip ▲

HAMILTON SUPER SENSITIVE *Tapping* MACHINE

2992

Capacity — 000-120 to 10-24

In the field of small hole, precision tapping the HAMILTON Super Sensitive Tapping MACHINE stands alone. It is smooth, silent, precise, and sturdy. Spindle returns to neutral position and stops rotation instantly and automatically when pressure on the feed lever is released. To learn what this means to you,

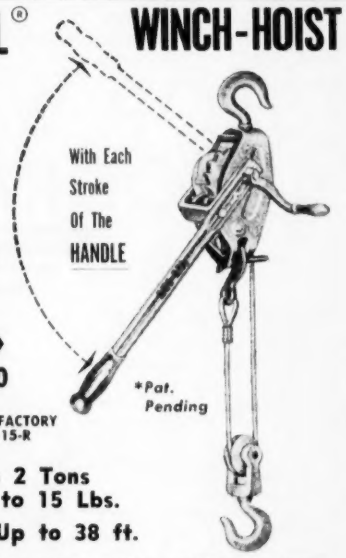
write for our free Bulletin No. 2992.

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

▲ For more details circle **NED-141 E1** on enclosed inquiry slip ▲

NEW LUG-ALL® WINCH-HOIST

LOWERS 4 TIMES FASTER*



PRICED FROM $34.50
F.O.B. FACTORY
Model 115-R

*Pat. Pending

Capacities 1/2 to 2 Tons
Weight Only 7 to 15 Lbs.
Cable Lengths Up to 38 ft.

Now available for the 1st time, a light weight cable lever ratchet hoist that will lower more than one notch at a time. These units lower 4 notches-per-stroke of the handle for lowering greater distances more quickly. Especially useful for handling pipe, pumps, motors, duct work, machine parts, etc. Notch-per-cycle, which allows finer hook movement for positioning work, etc., can be had with the flick of a lever.

nothing else like it on the market

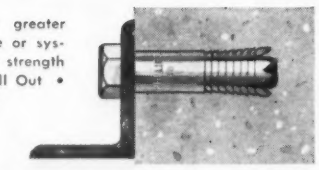
THE LUG-ALL COMPANY
HAVERFORD 8, PENNSYLVANIA

▲ For more details circle **NED-142 E1** on enclosed inquiry slip ▲

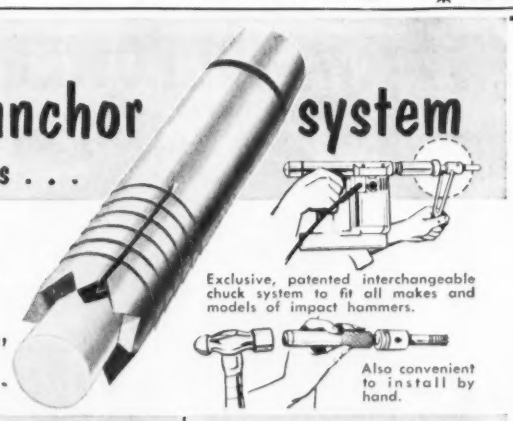
PHILLIPS RED HEAD self-drilling CONCRETE ANCHOR

the Original
self-drilling concrete anchor system
obsoletes conventional anchoring methods . . .

A permanent concrete anchor with far greater strength and reliability than any other type or system. Everlasting holding power exceeds the strength of the bolt or the concrete itself. Cannot Pull Out • Rust Out • Melt Out • or Vibrate Loose.



"Look for the RED HEAD!"



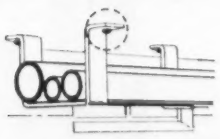
Exclusive, patented interchangeable chuck system to fit all makes and models of impact hammers.

Also convenient to install by hand.

PHILLIPS DRILL CO.
MICHIGAN CITY, INDIANA

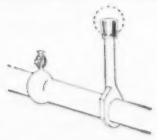
A COMPLETE LINE OF "RED-HEADS" TO MEET ALL NEEDS

SNAP-OFF ANCHOR



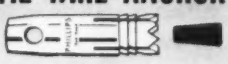
Used where large quantities are to be installed with a power hammer. For wall, floor or ceiling installations. Cuttings pass through shell and chuck without removal for cleaning.

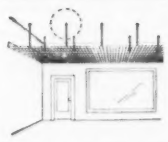
ROD HANGER ANCHOR



Assures a neat, positive fastening for threaded hanger rods. For anchoring wood timbers, furring strips, etc. to concrete. Shells have internal National Coarse (U.S.S.) threads to accommodate bolts hanger rods or screws which are extra.

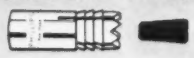
TIE WIRE ANCHOR

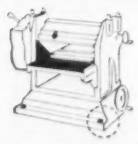




For suspended ceilings, plaster forms, guy wires, securing wire mesh to concrete, or masonry and for hanging fluorescent lighting fixtures.

FLUSH END ANCHOR





For general work where hand installation is economical and desirable. Widely used for factory maintenance. Install by hand with Holder/Driver.

NATIONWIDE FACTORY WAREHOUSES AND FIELD ENGINEERING SERVICE

Get's the job done faster, easier, better. For new installation or relocation; for product changeover or change of plant layout . . . RED HEADS are the most time saving, most cost saving most reliable MAINTENANCE tool.

▲ For more details circle **NED-140 E1** on enclosed inquiry slip ▲

EDMONT CASE No. 667: Operating a punch press, 10½ oz. cotton gloves lasted only 4 hours. Edmont recommended a vinyl-impregnated fabric glove (No. 152 Werx), which wore 24 hours, reducing glove costs 66%.

Outwears cotton gloves 6 to 1

In the case above, the *job-fitted* glove reduced costs from 6¢ per man-hour to 2¢. On many other operations, Werx gloves also replace goatskin and leather at 40% to 70% saving. Their vinyl-impregnated fabric gives sure grip, excellent dexterity and is 100% machine washable.

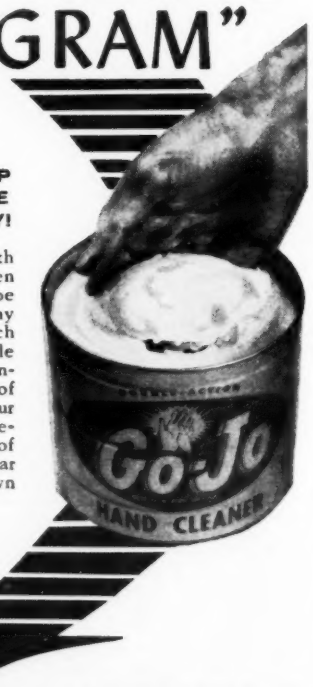
Free Test Offer to Listed Firms: Tell us your operation. From more than 50 impregnated and coated fabric gloves, we will recommend the correct style and send samples for job testing. Edmont Inc., 1240 Walnut Street, Coshocton, Ohio. In Canada, write Edmont Canada, Ltd., Cowansville, Quebec.

Edmont JOB-FITTED GLOVES

▲ For more details circle **NED-143 E1** on enclosed inquiry slip ▲

GOJER, INC. Announces Its

"STOP WASTE PROGRAM"



CARELESS WASH-UP PROCEDURES ARE COSTING YOU MONEY!

A pair of dirty hands with free access to an open can of soap may well be the reason your company handcleaning bill is such a costly item. Provide an effective way of controlling the amount of soap being wasted by your employees, and you'll prevent the greatest part of your handcleaning dollar from being washed down the drain.

GO-JO'S HEAVY DUTY DISPENSER CONTROLS WASH-UPS... SAVES YOU MONEY!

Designed to eliminate waste, the Go-Jo Heavy Duty Dispenser delivers just the right amount of Go-Jo to get even the grimiest hands spotlessly clean. Go-Jo Creme Hand Cleaner is a concentrated formula containing GT-7 for dermatitis protection, plus soothing emollients to prevent chapping. When used in the Heavy Duty Dispenser, it provides four times as many clean-ups as "hand scoop" methods.

Pat. No. RE. 24312

The Go-Jo jobber serving your area will be happy to show you how to cut as much as 75% off your hand-cleaning expenditures. Write us today.

2612

GOJER, INC.
Box 991 Akron 9, Ohio
MANUFACTURERS OF go-jo PRODUCTS

▲ For more details circle **NED-144 E1** on enclosed inquiry slip ▲

VANE PUMP CARTRIDGE
subminiature unit weighs 1 oz

With a diameter of only ¾ in., this vane pump cartridge can be incorporated in many types of fluid systems. The 1-oz unit delivers 0.1 to 1.3 gpm at pressures from 50 to 1500 psi. Displacement is 0.003 to 0.013 cu in. per revolution and speed range is 8000 to 26,000 rpm. Operating life of the subminiature cartridge is up to 1000 hr. Integration with mechanical and servo valves, engine fuel controls, or manifolding as a multiple element pump in series or parallel circuits are applications. Cartridge may be made of various metals, plastics, or ceramics to be compatible with any pumpable liquid or gaseous fluid. • **Vickers Inc.,** Dept. 1456, Detroit 32, Mich.

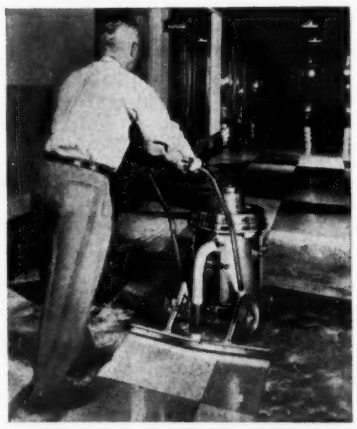
▲ For more details circle **NED-145 E1** on enclosed inquiry slip ▲

ABRASIVE BELT CLEANER
minimizes metal loading

Belt-Life cleaning compound for abrasive polishing belts and wheels cleans the abrasive surface and prevents it from loading with metal. It also lubricates, enabling the abrasive surface to produce finer finishes at a faster rate of cut. Often a finer grit belt can be employed without the need for a grease stick. Compound can be applied with a brush, swab, or spray while belt or wheel is operating. Its flash point is 265° F. • **Grav-i-Flo Corp.,** 400 Norwood Ave., Sturgis, Mich.

▲ For more details circle **NED-146 E1** on enclosed inquiry slip ▲

SQUEEGEE ATTACHMENT
enables vacuum to pick up water



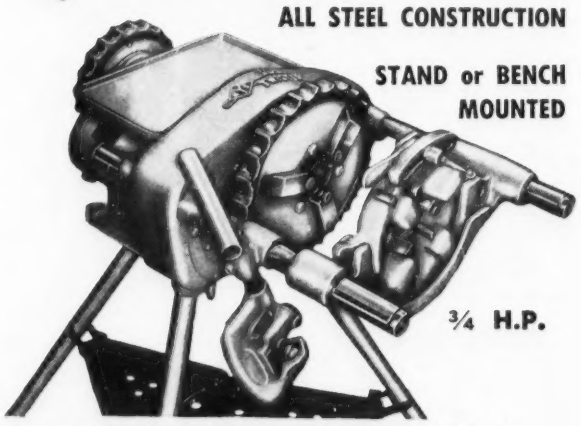
Designed for company's 300 and 400 Series Tornado wet vacuum sweepers, the Trot-Mop floor squeegee attachment picks up water or any cleaning solution in a 30-in. swath. Squeegee has a 2-in. hose intake and is mounted behind the rear wheels of the floor machine. Operator can walk or even run with the aluminum unit, minimizing clean-up time. • **Breuer Electric Mfg. Co.,** 5100 N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-147 E1** on enclosed inquiry slip ▲

NYE 101 POWER DRIVE

ALL STEEL CONSTRUCTION

STAND or BENCH MOUNTED



¾ H.P.

Quick-opening die heads (as illustrated) for threading ½" through 2" pipe or conduit. Fits into Nye saddle — perfect alignment — no pipe guide necessary — Nye 101 cutter mounted on rest bar with easy to see cut off mark.

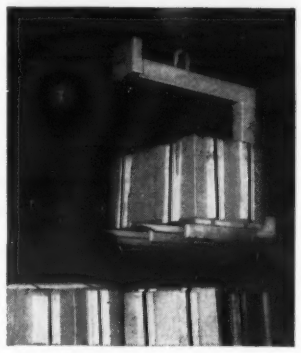
Yoke assembly also available for threading 2½"-4" pipe or conduit—no long drive shaft.

Write for descriptive literature

NYE TOOL COMPANY
4126 Fullerton Ave., Chicago 39, Ill.

▲ For more details circle **NED-148 E1** on enclosed inquiry slip ▲

AS LITTLE AS $285 MAKES YOUR HOISTS and CRANES INTO FORK LIFTS



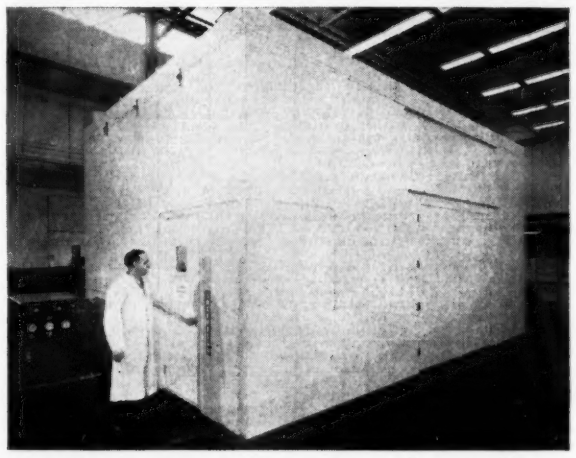
You can now handle pallet, coil and other unit loads where fork trucks are too expensive or impractical. America's foremost industries are saving thousands of dollars in first cost, handling cost, operating cost and maintenance cost with

CADY Pallet, Coil and Pipe Lifters

Repeat orders are proof of satisfaction. Counterbalanced to hang level, they are easy to use and reduce non-productive handling costs in plants, in yards, on docks and job sites. Standard Pallet Lifters up to 10,000 lbs. capacity, Coil Lifters up to 40,000 lbs. capacity, and Pipe Lifters up to 15,000 lbs. capacity. Custom models to fit special conditions. Write or phone for helpful application recommendations.

CADY METAL FABRICATING INC.
84 SCHENCK ST. Phone NX 2-4145 N. TONAWANDA, N. Y.

▲ For more details circle **NED-149 E1** on enclosed inquiry slip ▲



ERECT STANDARD 15′ x 39′ PRE-FAB-LAB® IN 2 to 3 DAYS

New Sheffield Pre-Fab-Lab®, a demountable environmental controlled enclosure for gage laboratory or "white room", keeps temperature within ¼° F, RH under 50%, circulates electrostatically cleaned air. Costs far less than permanent installation. Readily dismantled and reassembled. Standard models: 15′ x 23′, 15′ x 31′, 15′ x 39′. Height 12′. Entry 8′ x 8′ for moving large equipment. Regular door has airlock. Write for Bulletin or proposal, to Division No. 600.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

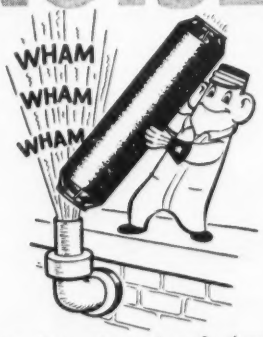
▲ For more details circle **NED-150 E1** on enclosed inquiry slip ▲

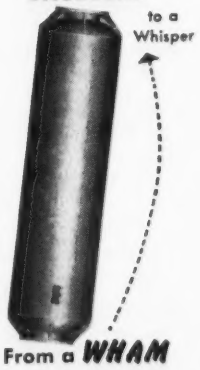
STOP THAT NOISE!

from Air, Steam and other gas discharges

with

BURGESS-MANNING SNUBBERS





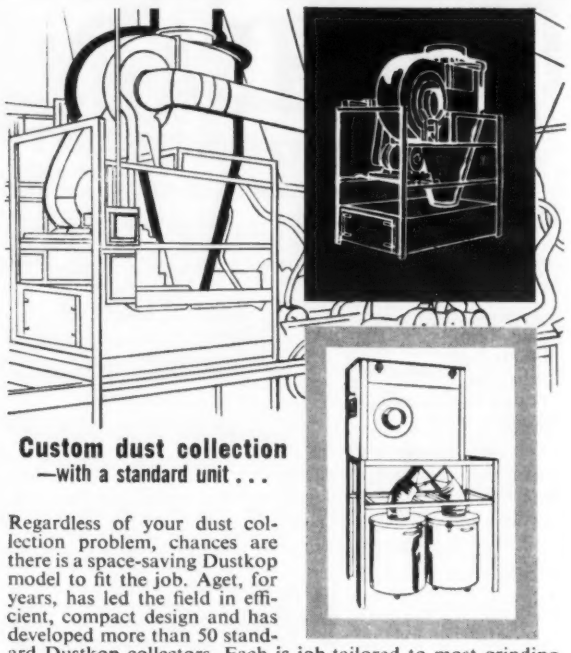
Stop that noise and profit through better neighbor and employee relations. Avoid compensation claims.

Burgess-Manning Snubbers are engineered to effectively correct your specific noise problem. There is no obligation for recommendations. Send us a description of your problem.

From a WHAM

Industrial Silencer Division
BURGESS-MANNING COMPANY
The Sound Engineering People 9227 Sovereign Row, Dallas 7, Texas
Sales Engineering Representatives World-Wide

▲ For more details circle **NED-151 E1** on enclosed inquiry slip ▲



Custom dust collection
—with a standard unit . . .

Regardless of your dust collection problem, chances are there is a space-saving Dustkop model to fit the job. Aget, for years, has led the field in efficient, compact design and has developed more than 50 standard Dustkop collectors. Each is job-tailored to most grinding, buffing or finishing operations—as well as many other types of service. Write for illustrated brochure that helps select your tailored Dustkop unit.

Also a complete line of mist collectors

AGET MANUFACTURING COMPANY 1396 EAST CHURCH ST., ADRIAN, MICHIGAN DUSTKOP Stops Dust

For more details circle NED-152 E1 on enclosed inquiry slip

R/M CAPABILITY PRODUCES

ASBESTOS-TEFLON PACKINGS*

with low breakaway friction and excellent resistance to most chemicals

R/M No. 840SW braided and "Teflon"-impregnated packing for valves and pumps eliminates the troubles normally associated with solvent-handling lines. It represents the most effective combination of materials for this kind of service – high grade asbestos and "Teflon."

Other R/M Asbestos-"Teflon" packings are available for application on systems handling weak and concentrated acids, corrosive fluids, and slurries.

Write for our new R/M Catalog P-100 containing complete information about R/M Mechanical Packings and Gasket Materials.

*Registered trademark for Du Pont fluorocarbon resins

RAYBESTOS-MANHATTAN, INC.
RM **PACKINGS**
PACKING DIVISION, PASSAIC, N.J.
MECHANICAL PACKINGS AND GASKET MATERIALS

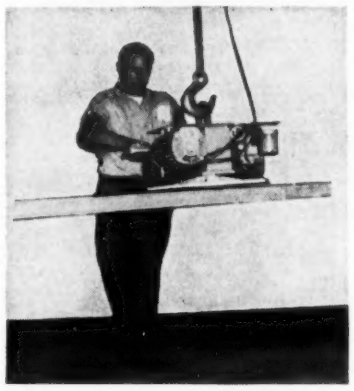
For more details circle NED-153 E1 on enclosed inquiry slip

DIFFERENTIAL THERMOMETER
accurately measures to 0.001° C

Temperature fluctuations in colorimetry, change-of-state experiments, research reaction studies, cryoscopy, and chemical research can be measured by this precision differential thermistor thermometer. Temperatures to 0.001° C are measured by the compact, low heat capacity unit. It reads directly in degrees Centigrade and can be used as a single point or difference-between-two-points measuring device. Range is from −60 to 300° C. • **Fiske Associates, Inc.**, Bethel, Conn.

For more details circle NED-155 E1 on enclosed inquiry slip

VACUUM LIFTING UNIT
lifting capacity is 1340 lb



Rigid safety handle of the Model VL-IML vacuum lifting unit keeps the operator away from the load. Controls are in the handle. Indicator lights assure the operator that the unit is ready for safe lifting. A safety tank holds the load in case of power failure. Rated capacity in lifting stone, aluminum, steel, or concrete slabs is 1340 lb. A filter removes dirt from the system. • **Airlock Mfg. Co.**, 421 N. 20th St., Bessemer, Ala.

For more details circle NED-156 E1 on enclosed inquiry slip

FLOOR SURFACING PRODUCTS
latex and color types offered

Latex incorporated in Penntrowel Latex, one of two industrial floor surfacing products, facilitates application with only simple cleaning and wetting of the old concrete. It can be applied in thicknesses down to ¼ in. and feathers out for patch work. When not subject to corrosives, product is hard-wearing. Color Penntrowel, with color pigment in the resin itself, provides a decorative effect along with resistance to strong acids, alkalies, and solvents. It will support heavy traffic and withstands temperatures to 230° F. • **Pennsalt Chemicals Corp.**, Corrosion Engineering Products Dept., Natrona, Pa.

For more details circle NED-157 E1 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC. 192 MILL STREET ROCHESTER, NEW YORK

For more details circle NED-159 E1 on enclosed inquiry slip

For All Rotating Equipment the ROTARY UNION*

This revolving joint is remarkably flexible. It can be installed at any angle. It automatically adjusts to stress and strain—to machine wear, and to variations in line pressure. The Rotary Union maintains a tight seal for gases and liquids from dead stops to high speeds.

There is a Rotary Union for every heating or cooling application—in pipe sizes from 1/4" through 5". Write for Catalog 700.

*Trade Name—Patented

"WHERE Good Connections COUNT"
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

For more details circle NED-160 E1 on enclosed inquiry slip

Get "RIGHT-SIZE" ECONOMY... "RIGHT-SIZE" CONVENIENCE with **GRACO HYDRA-SPRAY**

Why pay for a spray painting unit that's too big . . . or too small . . . when there's a Graco Hydra-Spray that *exactly* fits the job.

Eleven models, stationary, portable and standpipe, from 5 gallon capacities to 55 gallon capacities, comprise the Graco Hydra-Spray line of *airless* spray painting equipment.

See your local Graco dealer for the Hydra-Spray unit that fits your job like a glove!

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC. 57 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-154 E1 on enclosed inquiry slip

Now! AIRLESS SPRAY ECONOMIES FOR FINE FINISHING WORK WITH **GRACO "FF" FINE FINISHING TIPS**

Total atomization of paint is accomplished inside the Graco "FF" Fine Finish Tip creating the exclusive diamond-like "FF" pattern. This excellent lapping pattern makes it possible to apply an even mil thickness suitable for precise final finishes.

With the Graco "FF" Fine Finish Tip, you can have *airless spray economies* for fine finishing work.

Comes in a wide range of tip sizes to handle almost any viscosity.

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC. 57 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-158 E1 on enclosed inquiry slip

Profit from balance and light weight with the new **GRACO HYDRA-SPRAY "GOLDEN GUN"**

Save time and cut costly rejects with the *New* lightweight Graco "Golden Gun". A special swivel hose attachment makes it better balanced for greater operator freedom, and it features a new principle in trigger design that makes it equally efficient for high volume fine finishing or protective coating work . . . a light trigger pull creates a precise spray pattern with no lag to cause leaks or spitting.

See your Graco dealer for all the details.

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC. 57 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-161 E1 on enclosed inquiry slip

Core Hardest Masonry

Core Any Masonry Material At Lower Costs

HOFFMAN MASONRY CORE BITS

Each Hoffman Bit is engineered for the specific job . . . coring steel reinforced concrete, granite, marble, fused quartz, asphalt, Zac block, tile, etc. Assures you of long, accurate drilling at high speeds . . . cuts your masonry coring investment to a fraction of that required with conventional tools.

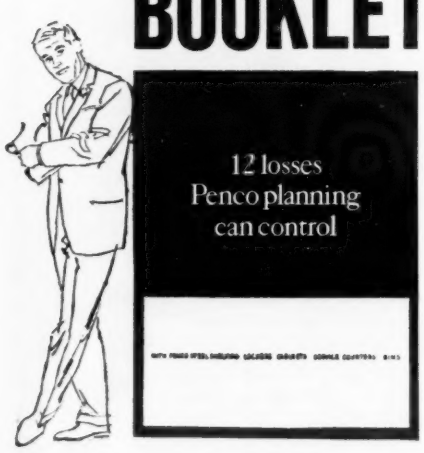
Write for catalogue and prices—FREE.

Diamond Tool Experts Since 1902

HOFFMAN BROS. DRILLING CO.
106 Cedar St. Punxsutawney, Penna.

▲ For more details circle NED-163 E1 on enclosed inquiry slip ▲

NEW PENCO BOOKLET



How to control 12 costly plant losses with PENCO-PLANNED shelving, lockers, specialties...

- ☐ Waste Space
- ☐ Stealing
- ☐ Poor Inventory Control
- ☐ Slow Order Filling
- ☐ Shipping Bottlenecks
- ☐ Accidents
- ☐ Cleaning Costs
- ☐ Low Employee Morale
- ☐ Production Bottlenecks
- ☐ Excessive Damage
- ☐ High Insurance Costs
- ☐ Excessive Handling Costs

A brand-new, 16-page, illustrated thought-starter that gives proven guidance, informative facts, on how to use Penco storage equipment to reduce common plant losses.

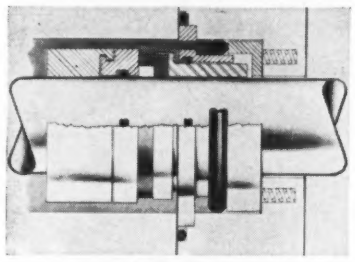
If your company is considering new *shelving, lockers, cabinets, counters,* or *metal storage specialties,* read this Penco Planning Booklet before you buy! Read how to control up to 12 major drains on plant efficiency, profitability.

Request your copy now . . . free on request. Address Dept. F.

ALAN WOOD STEEL COMPANY
PENCO DIVISION
Oaks, Pennsylvania

▲ For more details circle NED-164 E1 on enclosed inquiry slip ▲

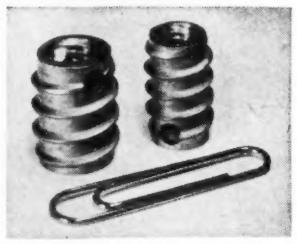
MECHANICAL SEAL
fluid pressure closes sealing faces



Positive sealing under varying load conditions is assured by this Type 500F CounterPoise mechanical seal. Balanced fluid pressure alone closes the sealing faces, and springs are used merely to hold the faces in sealing contact when fluid pressure is below the design minimum. Free from vibration and spring chatter, seal has deep carbon face that wears evenly. Springs are isolated from fluid to avoid corrosion and clogging with sediment. Single basic seal design covers a wide range of pressure needs, and various construction materials can be utilized for special service problems. • **A. W. Chesterton Co.**, 6 Ashland St., Everett 49, Mass.

▲ For more details circle NED-165 E1 on enclosed inquiry slip ▲

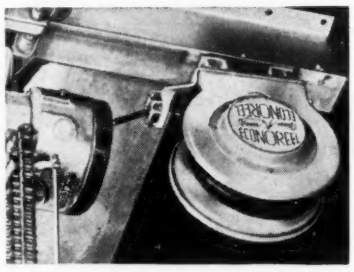
WOOD THREAD INSERT
used in blind and through holes



Strength at low cost is afforded by the Series WH thread insert made of die-cast Zemak for use in blind and through holes in woodworking applications. It is available in 1/4-20 and 5/16-18 sizes and will be produced in 3/8-16 sizes. Smallest size costs 1.6 cents each in quantity orders. • **Groov-Pin Corp.**, 1125 Hendricks Causeway, Ridgefield, N. J.

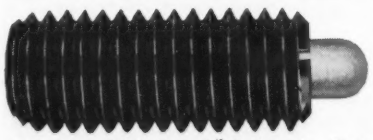
▲ For more details circle NED-166 E1 on enclosed inquiry slip ▲

HEAVY-DUTY REEL
for cords powering moving hoists



Electric cords powering hoists and similar equipment in motion are protected by the Econoreel heavy-duty reel, designed for 20 amp capacity and voltages to 550 v ac or 250 v dc. Reel features a replaceable spring motor, with tension on spring adjustable from the outside by rotating the housing position. It handles Type S and SO cord in 2, 3, and 4-conductor, No. 18, 16, 14, and 12 sizes, and accommodates lengths from 25 to 45 ft. Swivel base, roller cord outlets, and trolley brakes are accessories available. • **Gleason Reel Corp.**, 800 Horicon St., Mayville, Wis.

▲ For more details circle NED-167 E1 on enclosed inquiry slip ▲



SPRING PLUNGERS are now available in four types and thirty-four sizes. Black Pentrate Nose with standard spring pressures, 6-32 thru 1"-8 threads. Cadmium Plate Nose with light spring pressures, 6-32 thru 1"-8 threads. Black Nylon Nose with standard spring pressures, 8-32 thru 5/8"-11 threads. White Nylon Nose with light spring pressures, 8-32 thru 5/8"-11 threads. Northwestern Tools, Inc., 127 Hollier Ave., Dayton 3, Ohio.

PLASTIC BALL KNOBS with brass inserts are now available in four diameters and twelve thread sizes. 3/4" diameter with 10-32 threads. 1" diameter with 1/4-20, 1/4-28, 5/16-18 or 5/16-24 threads. 1 3/8" diameter with 3/8-16, 3/8-24, 1/2-13 or 1/2-20 threads. 1 7/8" diameter with 1/2-13, 1/2-20 or 5/8-18 threads. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

SWING "C" WASHERS complete with shoulder screws, are now available in four sizes for 3/8", 1/2", 5/8" or 3/4" bolt sizes.

Write or call today for your free new 16-page cataolg. Catalog includes tracing templates of jig and fixture components. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

Advt.

▲ For more details circle NED-168 E1 on enclosed inquiry slip ▲

OVERHEAD UNDER FOOT?

precious-metal scraps, sweeps, solutions and shavings are a form of reducible overhead you may be neglecting simply because you regard them as mere shop wastes instead of the potential "buried treasure" they really are. Money hides in:

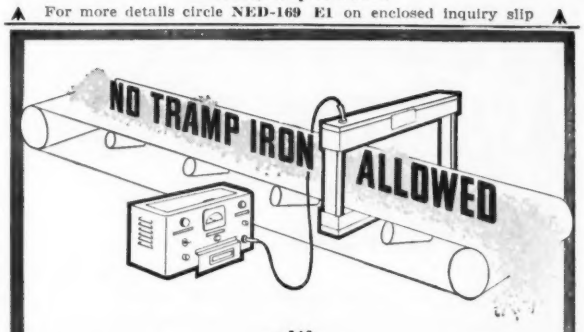
Turnings, chips, shavings	Blanking scrap
Anode ends	Filter pads
Chemicals	Contact alloy scrap
X-ray film	Coated plastics, glass, etc.
Brazing alloy scrap	Plating solutions
Bimetals scrap	Platinum-bearing materials

Once you've collected your valuable wastes from under foot, you'll want to send them where you'll get highest returns. Handy & Harman has the well-earned reputation for getting the most out of refinings, regardless of form. Try us and see. And send for our Bulletin 24—it's full of tips on *how to turn trash into cash.*

HANDY & HARMAN
850 Third Avenue, New York 22, N.Y.

Refining Plants and Collection Stations: Bridgeport, Conn., CLearwater 9-8321 • Chicago, Ill., SEeley 3-1234 • Los Angeles, Calif., CUmberland 3-8181 • Providence, R. I., JAckson 1-4100 • CANADA: Toronto, EMpire 8-6171

▲ For more details circle NED-169 E1 on enclosed inquiry slip ▲



with

DINGS DETECTORS
on the job

Why take a chance on tramp iron damage to expensive equipment? With the Dings Universal Series Detector policing your conveyor belts, spouts, troughs or slides, no iron or steel can pass through the search coil undetected. The Universal Series Detector is easily installed on existing conveyors and requires practically no attention for constant, automatic protection of processing equipment. It can automatically stop conveying or processing equipment when applied even on deep burdens traveling at high speed. With a wide range of sizes to meet your requirements, the Dings Universal Series Detector gives you the lowest cost tramp iron protection ever offered!

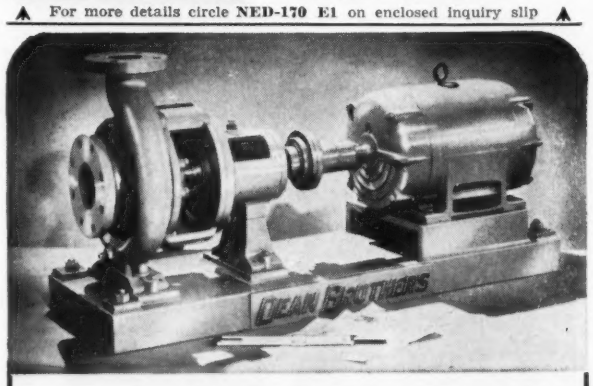
MD-160

Dings

Write for Bulletin 1901 for complete details

DINGS ELECTRONICS, INC.
Subsidiary of Dings Magnetic Separator Co.
4758 W. Electric Avenue
Milwaukee 46, Wisconsin

▲ For more details circle NED-170 E1 on enclosed inquiry slip ▲



FOR EASE IN SOLVING CORROSION PROBLEMS CHECK THE 4 E's OF DEAN BROTHERS TYPE pH PUMPS

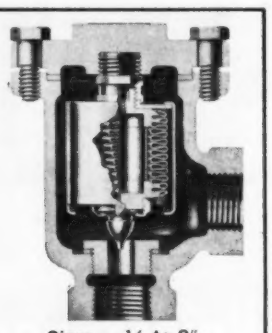
- ✓ **Easy to Select**—28 sizes (14 horizontal, 14 vertical) available in 14 corrosion-resistant alloys, to fit your special pumping problem.
- ✓ **Easy to Install**—Centerline suction and discharge connections. No need to remove from suction or discharge piping for servicing.
- ✓ **Economical to Buy**—Low first cost combined with easy servicing and maximum interchangeability of parts make pH pumps lowest cost in the long run.
- ✓ **Economical to Operate**—Fully open impellers for slurries and clear liquids contribute to long, trouble-free service life with minimum down-time.

For Complete Information Write for Circular 217

DEAN BROTHERS PUMPS INC.
INDIANAPOLIS 7, INDIANA
The Best Is Our Standard

▲ For more details circle NED-171 E1 on enclosed inquiry slip ▲

GREATEST CAPACITY PER DOLLAR COST...



Sarco Thermostatic Steam Trap Type No. 9

Sizes — ½ to 2"
Write for Bulletin 250

7 important advantages!

1. **Greatest capacity per dollar cost** — 1" size discharges 9,650 lbs/hr at 10°F below steam temperature, 125 psi.
2. **Same head and seat for 0-300 psi** — no change of heads or seats for varying loads and pressures.*
3. **Fewer parts to stock** — same bellows, head and seat for 0-300 psi.*
4. **Very compact and light** — ¾" size fits in palm of hand. Weighs only 3¾ lbs.
5. **Freeze-proof** — wide open, self-draining when cold.
6. **Only one working part**— the thermostatic element. Inspected or replaced in few minutes without moving trap from line.
7. **Every trap steam-tested** — at rated max. pressure.

No. 9-300—Cast steel body and cap, with Monel metal bellows

4179

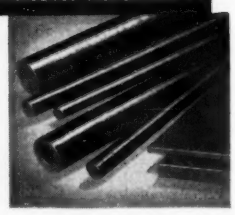
SARCO
SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle NED-172 E1 on enclosed inquiry slip

Chemically Inert Dry Bearing Material

Chemloy 719*

use without lubricant!



Chemloy 719 is proving to be the most *universal* dry bearing material ever offered to industry:

. . . because its extremely low coefficient of friction invites use where lubrication is impossible, impractical or undesirable.

. . . because it may be used on both sliding and rotating applications over a wide temperature range.

. . . because it is impervious to practically all known chemicals, solvents or corrosives.

. . . because it is excellent under vibration or shock service conditions.

. . . because it will not conduct electricity or cause galvanic corrosion.

Chemloy 719 is available in all basic forms—such as sheet, rod or tubing—or in parts molded or machined to specifications. Get full details.

*The best in Teflon based bearing materials.

Request Bulletin T-120 and Price Sheet No. 126, or send b/p or specs. for quotation on molded or machined parts. Crane Packing Co., 6411 Oakton St., Morton Grove, Illinois. *(Chicago Suburb) In Canada: Crane Packing Co., Ltd., Hamilton, Ontario,*

Teflon is a DuPont Trademark

John Crane CRANE PACKING COMPANY

For more details circle NED-173 E1 on enclosed inquiry slip

Easy **portable finishing**

With **ARO**

PORTABLE GRINDERS

Aro grinders help you get best results from back-up wheels, coated abrasives, or other attachments. Wide choice of tools for easy finishing . . . verticals, horizontals, right-angles . . . grinders, sanders, wire brushes, cut-offs . . . tiny high-speed turbines or heavy-duty 8" wheel jobs . . . plus wheel guards, collets, arbors, other standard accessories. All tools have *extra power* to maintain rated speed under load. Job-test an Aro Grinder in your shop. Ask your Aro distributor.

ARO®
AIR TOOLS
AIR HOISTS • AUTOMATION TOOLS • ULTRASONIC CONTROLS
THE ARO EQUIPMENT CORPORATION, Bryan, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7, California; Aro Equipment of Canada Ltd., Rexdale (Toronto) Ontario; Offices in all Principal Cities

For more details circle NED-174 E1 on enclosed inquiry slip

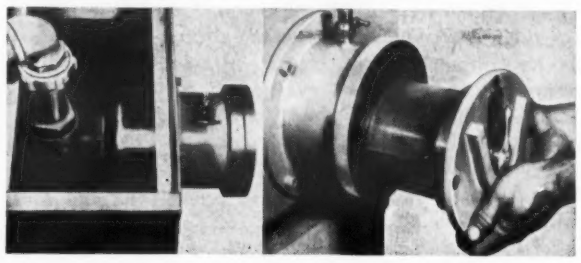
RUBBER PICTURE-STAMP allows stamping of personal photo

User's own photograph can be stamped on stationery, business cards, advertising material, greeting cards, and other papers with the Augustine Picture-Stamp. The rubber stamp retails for $7.95 and is made from a snapshot submitted by the purchaser. • **Augustine Co.**, Marshalltown, Iowa.

For more details circle NED-175 E1 on enclosed inquiry slip

SUBMERSIBLE FILTER projects through tank hole

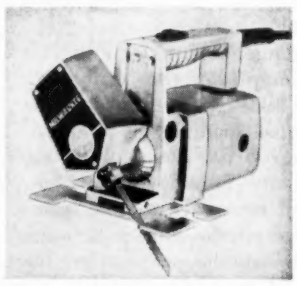
When submerged, this Tell Tale submersible type filter projects through a hole in the wall of the tank. Dirt indicator on the cover plate shows when filter needs



cleaning. Filter can be cleaned from outside the tank, and without draining the tank. Outlet can come out of top as shown, out of bottom, out either end using a single elbow, or can go straight across and out the back. Units are made of aluminum in 30, 60, 100, and 200-gpm sizes. Spring-actuated, sliding cutoff valve allows cleaning without draining of tank. • **Rosaen Co.**, 1776 E. Nine Mile Rd., Hazel Park, Mich.

For more details circle NED-176 E1 on enclosed inquiry slip

HEAVY-DUTY JIG SAW head pivots for angle cuts



Adjustable pivoting head on the Sawzitt heavy-duty jig saw allows tool to remain upright on angle cuts up to 45 degrees. A turn and lock shoe assures correct blade clearance for straight, miter, and flush cuts. Saw is powered by a ¼-hp motor and has ball and roller bearings, a vibration-free mechanism, and sawdust blower. It stands only 5½ in. high, weighs 5 lb, and will cut straight lines, curves, and intricate scrolls at 3500 strokes per minute. Saw is furnished with 11 assorted blades and a combination circle and rip guide for $69.50 and in a steel carrying case for $79.50. • **Milwaukee Electric Tool Corp.**, 5320 W. State St., Milwaukee 8, Wis.

For more details circle NED-177 E1 on enclosed inquiry slip

Fast portable finishing

with **Nu-Matic** air-cushioned sanding wheels

Pressure of plate glass against Nu-Matic inflated wheel illustrates large "working surface" of abrasive backed by resilient drum.

Put a cushion of air behind your abrasive and you have the fastest, most versatile tool ever developed for portable finishing operations!

Only Nu-Matic inflated wheels give you the advantages that allow you to:

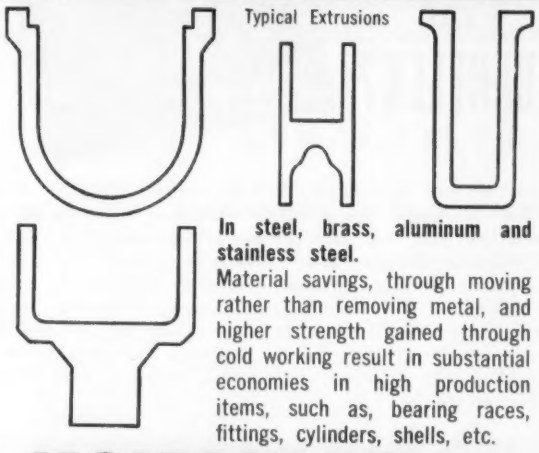
- put more abrasive grain on the work than any other wheel
- use flat or crowned abrasive bands . . . for rough or final finishing . . . on any material . . . and on any shaped surface!

TRY THEM FREE! Write for product literature and special free trial offer.

NU-MATIC GRINDERS, INC.
875 East 140th Street • UL. 1-7171 • Cleveland 10, Ohio

For more details circle NED-178 E1 on enclosed inquiry slip

COLD IMPACT EXTRUSIONS



In steel, brass, aluminum and stainless steel.
Material savings, through moving rather than removing metal, and higher strength gained through cold working result in substantial economies in high production items, such as, bearing races, fittings, cylinders, shells, etc.

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

For more details circle NED-179 E1 on enclosed inquiry slip

Available in Stainless Steel, Brass, Aluminum and Steel
JACOBSON NUT MFG. CORP.
KENILWORTH, N. J.

For more details circle NED-180 E1 on enclosed inquiry slip

Easy **portable finishing**

ANOTHER NORTON PRODUCT

with **KONTOOR Bands**

Guard removed for photo

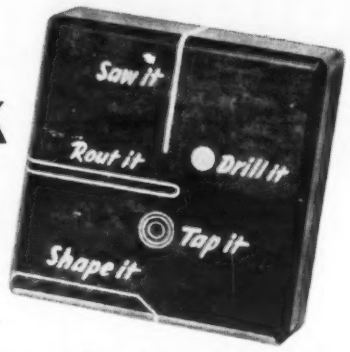
Unique Behr-Manning construction lets KONTOOR abrasive bands run under lower air pressure; chatter is reduced; crowned wheel and band ideal for curves, internal surfaces, narrow areas; no edge-cutting problem; require less storage space. Ask for a demonstration. Write Dept. NED-5, BEHR-MANNING CO., Troy, N. Y., a division of Norton Company.

BEAR Abrasives

For more details circle NED-181 E1 on enclosed inquiry slip

what can you do with this

FREE BLOCK of BENELEX?

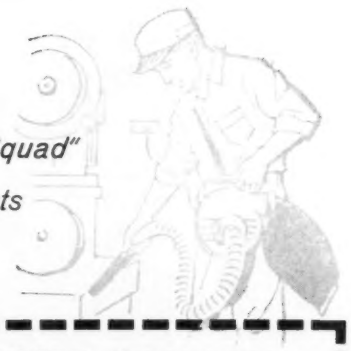


You can saw it, rout it, drill it, tap it, shape it. It's light—one-sixth the weight of steel. It's workable—machines any way you please. It's genuine Masonite hardboard. Watch this high-density laminate take the $ out of production costs. What *can't* you do with Benelex? Find out for yourself; write today for your free sample. We'll send you a free booklet, too, filled with specifications and suggestions for use. Write to Masonite Corporation, Dept. NED-5, Box 777, Chicago 90, Ill.

MASONITE
shows the way

®Masonite Corporation—manufacturer of quality panel products for building and industry
Masonite and Benelex are registered trade-marks of Masonite Corporation

▲ For more details circle **NED-182 E1** on enclosed inquiry slip ▲



"One-Man Cleaning Squad" Shaves Costs

GOES ANYWHERE--WORKS FAST

BLOWS
VACUUMS
SPRAYS
DRIES*

IDEAL

HAND-TYPE CLEANER

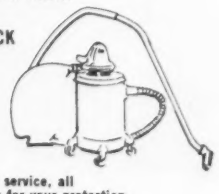
Pick the hardest cleaning jobs in your plant *or* front office. Machinery, storage bins, floors, scrap collection—even draperies, rugs and venetian blinds. This cleaner was built to handle them all—with least effort and in least time!

You get up to 26,500 feet per minute dry air blowing velocity (Heavy-Duty model) to remove chips and litter from difficult spots around machines and shelves. Yet it's gentled by Ideal air-engineering to be harmless to most sensitive equipment. Simple, low-cost attachments make spraying and drying* just as easy.

For vacuum cleaning, there are attachments, nozzles, hoses to handle every pick-up chore. Light-weight, balanced design minimizes fatigue. Three models: 1-1/3, 2/3, and 2/5 HP. You pick the power and the attachments to do your job best—and at lowest initial and operating cost.

*2/5 H.P. Model only available with heater nozzle.

FOR WET OR DRY PICK-UP LOW-COST TANK CONVERSION PACK
Hand-type unit slips onto tank to convert any Heavy or Medium Duty model into a powerful Tank-Type cleaner. Water and cleaning solutions stay in the 12-gallon tank, dust and dirt pass into the dust-tight bag. Pack consists of tank and bag. Attachments extra.



Built to last for years and years of heavy service, all IDEAL Cleaners carry a written guarantee for your protection.

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS
In Canada: Irving Smith, Ltd., Montreal

Get the Value-Facts Now! Mail Coupon

IDEAL INDUSTRIES, Inc., 1032-E Park Avenue, Sycamore, Illinois
Send catalog data on IDEAL Cleaners and Blowers
Name_____
Company_____
Address_____
City_____ Zone_____ State_____

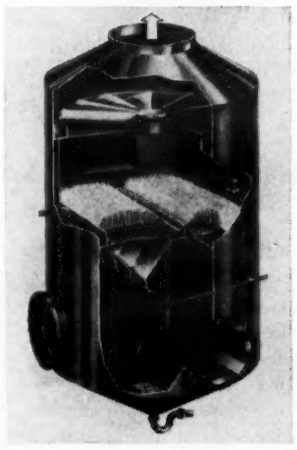
▲ For more details circle **NED-183 E1** on enclosed inquiry slip ▲

ULTRASONIC FLAW DETECTOR has high degree of sensitivity

Ultrasonically vibrating crystal of the Metalloradar flaw detector is intimately coupled to the object being tested through the medium of a synthetic membrane which fits tightly over the transducer. It has a high degree of sensitivity and, when greater sensitivity is desired, can be used with a liquid coupling. The dry-coupled unit tests objects that would be damaged by liquid immersion or oil coating. Flaw detection of irregular surfaces where the membrane makes an effective contact is another use. Attachments for direct numerical read-out are available. A marker system on the monitor screen gives easy read-out of distances by means of pips on a separate screen. Detector has a test range from 1 in. to 98.6 ft and six frequencies from 0.5 to 10 mc per second. • **Circo Corp.**, 51 Terminal Ave., Clark, N. J.

▲ For more details circle **NED-184 E1** on enclosed inquiry slip ▲

INDUSTRIAL GAS SCRUBBERS single and multiple impingement plate units have low pressure drop



Efficient scrubbing action of the Impinjet impingement plate gas scrubber performs wet cleaning, absorption, and cooling of gases from a wide range of industrial processes. Turbulent interaction of gas and liquid as effected by single or multiple impingement plate units accomplishes the scrubbing. Single stage unit handles dust loadings at inlet of up to 100 grains per cubic foot. It removes suspended materials ranging from submicron fumes to larger dust particles. Efficiency is over 99 per cent on many types of dust.

Liquid consumption is only 1 to 3 gal per 1000 cfm at 20 to 40 psi. Single-stage unit can have a pressure drop as low as 2½ in. while maintaining its efficiency. Additional plates increase efficiency, but not liquid consumption. Scrubbers have no moving parts. Typical uses are for wet dust collection from kilns, dryers, and furnaces. • **W. W. Sly Mfg. Co.**, 4700 Train Ave., Cleveland 1, Ohio.

▲ For more details circle **NED-185 E1** on enclosed inquiry slip ▲

KROIL *CREEPS IN*

loosens frozen parts

19,000 industrial users depend upon this amazing new chemical tool when some frozen parts tie up valuable machinery or threaten production. They say . . .

"Kroil will loosen almost anything from an embalmer's needle to a bulldozer."
"We have excellent results loosening stuck slides on musical instruments."
"On a 25-year old Bessemer gas engine, two bolts twisted off before . . . after using Kroil, they all came out easily."
"Before trying Kroil on heat treat trolleys we broke off every nut . . . since then, we have not lost one."

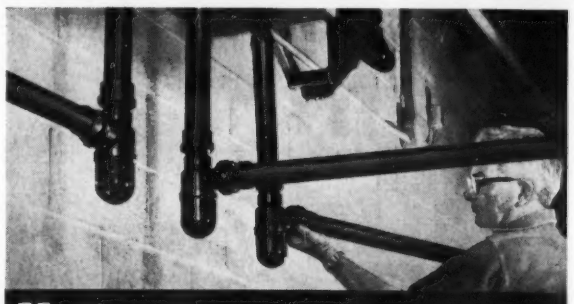
You too can get these results. Try KROIL on money-back basis.

Gallon $4.35; with Kroiler squirt gun, $5.25, f. o. b. factory.

Ask for GENIUS AT WORK—a free publication full of ideas for maintenance men.

KANO LABS. 1074 Thomson Lane Nashville 11, Tenn.

▲ For more details circle **NED-186 E1** on enclosed inquiry slip ▲



Vulcathene® cuts corrosive drainage costs!

Now you can save big money—and avoid big trouble—this modern way of draining laboratory wastes.

You save *every* way with Vulcathene. Installs in a fraction of the time—at half the cost—of other drainage systems. (Patented Polyfusion® method makes leak-proof joints in *seconds!*) Save on longer, trouble-free, maintenance-free life, because Vulcathene is made of virgin polyethylene throughout—can't corrode, shatter, scale, or even clog with normal chemical wastes.

Find out more about this completely integrated drainage system—pipe, fittings, sinks, traps, in all standard sizes. Write Dept. 355 for catalog.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

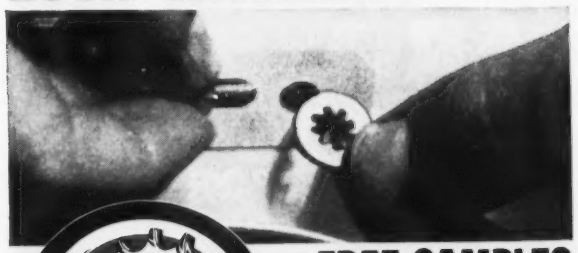
In Architectural, Industrial Construction and Plant Engineering Files of Sweet's

American Vulcathene
P.O. BOX 365 ROCHESTER 2, NEW YORK
DIVISION OF THE NALGE CO. INC.

▲ For more details circle **NED-187 E1** on enclosed inquiry slip ▲

▲ For more details circle **NED-188 E1** on enclosed inquiry slip ▲

TEST SHAKEPROOF® LIVE ACTION LOCK WASHERS



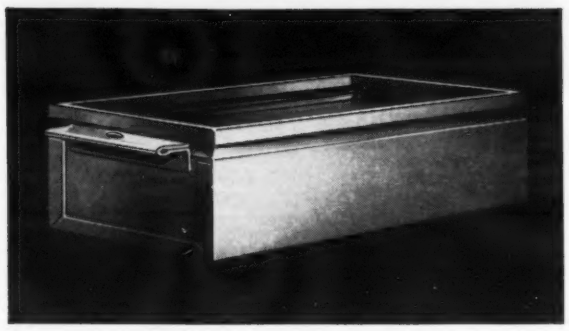
FREE SAMPLES

Test Shakeproof Live Action Lock Washers on your product. Prove to yourself how they lock your assemblies instantly, actually hold tighter, resist loosening as stress increases. Send for a Sample Kit . . . test "Live Action" . . . it never compromises your product's reputation.

WRITE FOR FREE SAMPLE KIT NOW!

SHAKEPROOF
"FASTENING HEADQUARTERS"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

▲ For more details circle **NED-189 E1** on enclosed inquiry slip ▲



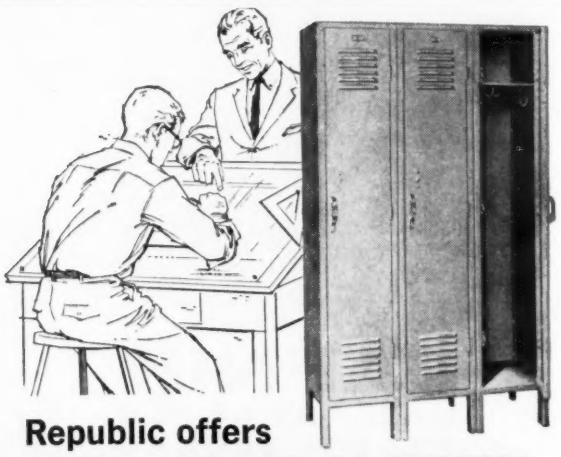
REPUBLIC STACKING BOXES

Save Space, Time, Labor

If you manufacture, store, or handle small parts Republic Stacking Boxes can help you cut costs. Sturdily constructed and reinforced against abuse, they are available in 16 or 18 gage steel, enameled or unpainted, with or without scoop, front or drop handle. Nesting boxes also available. Call your Republic representative, or write direct.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-190 E1 on enclosed inquiry slip



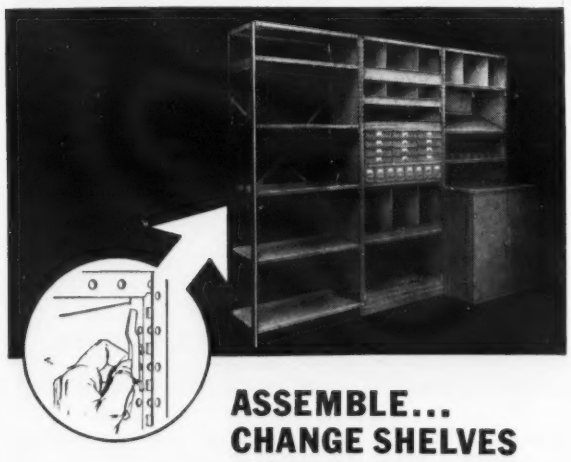
Republic offers
FREE LOCKER PLANNING

New locker area? Let Republic do the job for you. No-extra-charge locker planning service includes: suggested floor plans for best use of space and most efficient traffic flow; recommendations on the right type of locker for your specific requirements.

Once plans are approved, Republic will assume complete responsibility for locker installation, too. For full information call your Republic Representative.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-191 E1 on enclosed inquiry slip



ASSEMBLE... CHANGE SHELVES
with no tools

REPUBLIC CLIP SHELVING is easy to assemble. Put it up in minutes... no tools required with new shelf clip.

It's flexible, too... can be quickly modified to meet changing shelving needs. Wide variety of types and sizes. Call your Republic representative, or write:

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

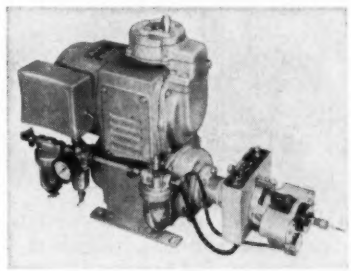
For more details circle NED-192 E1 on enclosed inquiry slip

AUTOMATIC COPYING MACHINE
for up to 11-in. by 150-ft originals

When an original is fed into this copying machine, it turns on automatically to make the exposure. It adjusts itself to the length of the original, trims the positive, delivers a flat dry print, and turns itself off. Machine makes clear, permanent black-and-white copies of all colors printed on various background colors on paper cut from a continuous roll. Copies of any original up to 11 in. wide and 150 ft long are made. Documents with images on opaque or translucent paper or transparent film, printed or written on one or both sides, can be processed. Developer tray and rolls slide out for easy cleaning. The 18 x 22 x 10-in. machine with single exposure control weighs 65 lb. It is sold under several trade names by Anken Chemical & Film Corp., Photek, Inc., and • **General Aniline & Film Corp.**, Ozalid Div., 64 Corliss Lane, Johnson City, N. Y.

For more details circle NED-193 E1 on enclosed inquiry slip

LEAD SCREW TAPPERS
½ and ¾-hp units have 0-¼ in. and ¼-¾ in. tap capacities

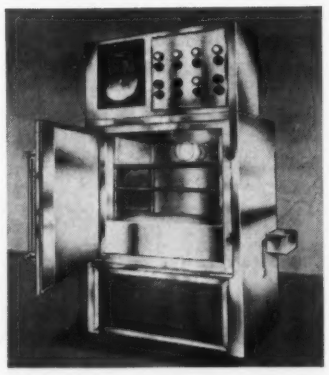


Completely self-contained with motor, speed regulator, and lead screw, electrically controlled, air-operated variable speed tapping units afford adaptability and precision tapping at low cost. Stroke is built into the tapping head, and depth can be held to within one-quarter turn. Tapper has safety return button which stops tapping action instantly. Friction clutch and low air pressures prevent tap breakage should tap strike an obstruction.

Fast, smooth action of lead screw, with reverse speed twice as fast as forward, eliminates need for hold down clamps or strippers in fixtures. The ½-hp tapper has an infinite speed range of 537 to 2150 rpm, tap capacity of 0 to ¼ in., and a 1 1/16-in. stroke. The ¾-hp unit has a speed range of 292 to 1170 rpm, with ¼ to ¾-in. tap capacity and 2½-in. stroke. Single cycle, jog, or automatic operation can be selected with a flick of a switch. • **Procunier Safety Chuck Co.**, 18 S. Clinton St., Chicago 6, Ill.

For more details circle NED-194 E1 on enclosed inquiry slip

TEMPERATURE-HUMIDITY CHAMBER
4-cu ft model reaches 200° F, humidities from 20-95 per cent



Added to line of temperature-humidity test cabinets, this 4-cu ft upright chamber has a temperature range of 0 to 200° F and humidity range of 20 to 95 per cent. Control tolerances are within ±2° F and ±5 per cent, respectively. The Environ-Cab is used for environmental testing of chemicals, electronic components, paints, plastics, and packaging. Oversized ¼-hp motor-driven blower circulates air throughout chamber to eliminate temperature gradients. Hermetically sealed, air-cooled compressor uses F-12 refrigerant.

Humidification is secured with immersion type heater in an open water pan at the base of the chamber, whereas dehumidification is accomplished with a direct expansion coil. Unit has a gasketed full-opening door, a 19 x 19 x 15-in. Monel metal interior chamber with recessed fluorescent light, gravity feed drain, and stainless steel exterior. • **Hudson Bay Co.**, 3070 W. Grand Ave., Chicago 22, Ill.

For more details circle NED-195 E1 on enclosed inquiry slip

New Steel Tubing DATA BOOKS

Just published. Complete up-to-date information on Republic ELECTRUNITE® Welded Steel Tubing including more than 400 new sizes, tolerances, physical properties, and other essential information on round, square, and rectangular tubing. For your free copy of the *Carbon Steel Tubing* booklet circle NED-196 on the enclosed inquiry slip. For *Stainless Tubing* circle NED-197 For combined booklet on *Carbon and Stainless* circle NED-198

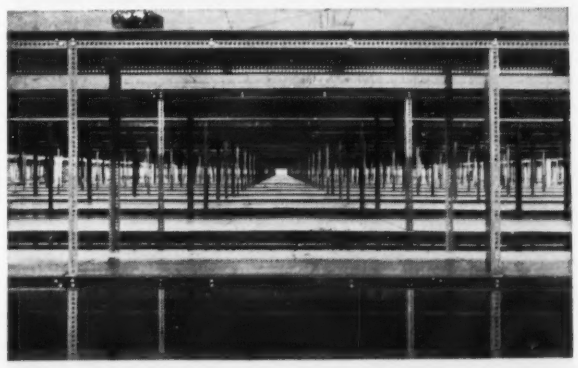
REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

REPUBLIC "KNOW-HOW" SOLVES YOUR FABRICATION PROBLEMS

Contract manufacturing is a full-time operation at Republic's Berger Division. Engineers work with you in developing your product, in solving manufacturing, assembly, delivery problems. Well-rounded stock of tools, dies, complete machine shop. Modern production lines for shearing, punching, forming, painting. Call, or write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-199 E1 on enclosed inquiry slip



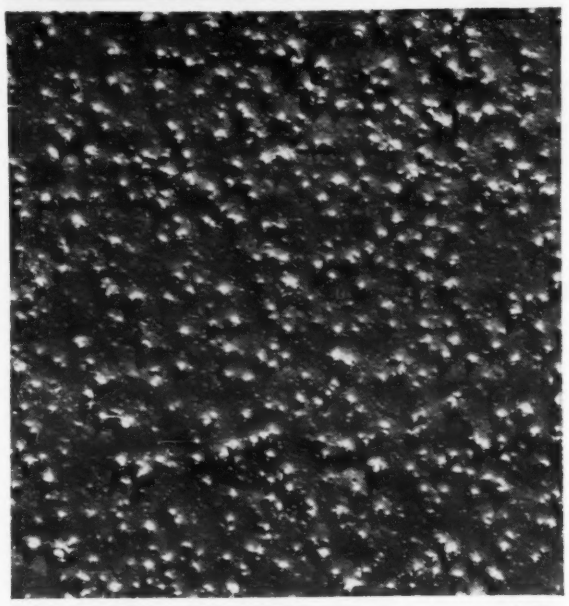
BUILD IT with Republic METAL LUMBER

Versatile as its name implies, Republic Metal Lumber®—the strong, easy-to-use framing material of 1,000 uses.

Simply measure, cut, assemble... for racks, benches, ladders, shelving. Delivered in bundles of 10 pieces, 10- or 12-foot lengths. Send for idea catalog, or call your Republic representative.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-200 E1 on enclosed inquiry slip



This is Grip Tread Mastipave...world's toughest low-cost safety flooring. It stops slips with a special traction surface. Cleans easily. Lasts for decades. Free folder is yours for the writing:

DEPARTMENT NE PABCO FLOOR COVERING DIVISION, FIBREBOARD PAPER PRODUCTS CORPORATION, 475 BRANNAN STREET, SAN FRANCISCO, CALIFORNIA

For more details circle NED-201 E1 on enclosed inquiry slip

FOR FEWER TROUBLE CALLS

Dow Corning silicone lubricants have superior heat resistance . . . won't thin out, gum up or oxidize. They provide long-time lubrication even when bearing temperatures are as high as 400 F. Specify silicones wherever high temperature is a problem and "special" lubricants are required. Write today for FREE SAMPLE and literature. Dept. 5817a.

FREE SAMPLE

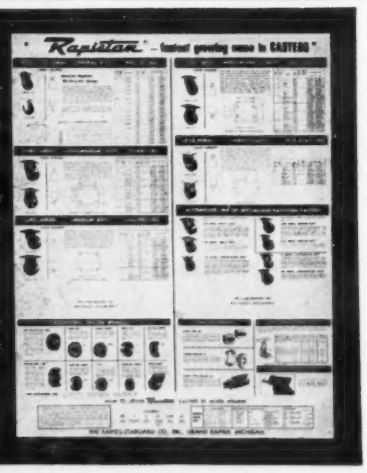
first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-202 E1 on enclosed inquiry slip

NEW WALL CHART

aids in caster selection



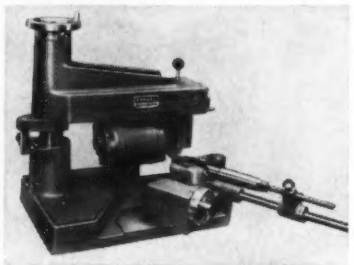
Take the guess work out of selecting casters and wheels. Write today for Rapistan's caster selection wall chart. Illustrates 5 standard industrial caster series including load limits, wheel characteristics, installation data, bolt hole spacings, and applications of hot forged and cold forged casters for all types of in-plant mobile equipment. Printed in color on durable and washable "fabric" type paper. No charge or obligation.

The RAPIDS-STANDARD CO., Inc.
613 Rapistan Bldg.
Grand Rapids 2, Michigan

Rapistan® CASTERS AND WHEELS

For more details circle NED-203 E1 on enclosed inquiry slip

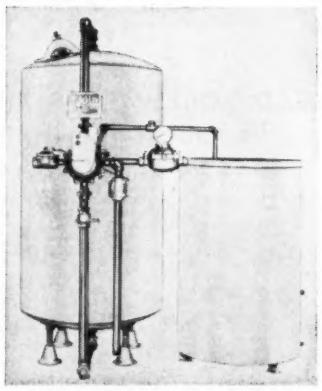
DRILL POINT THINNER
bench machine is self-contained



Farrel - Sellers drill point thinning machine will thin and center the points of ½ to 3-in. diameter drills with lengths up to 24 in. The drill is held at three points with its body free of chuck contact. Machine grinds a groove of the proper depth on each side of the web to reduce the length of the flat between cutting edges. Drill is reset for each groove so that its axis is always in the same position. Grinding wheel height has micrometer adjustment. One pair of jaws holds all drill sizes. The ½-hp, 3450-rpm motor operates on 220/440 v or 110 v. • **Farrel-Birmingham Co.**, Consolidated Machine Tool Div., 565 Blossom Rd., Rochester 10, N. Y.

For more details circle NED-204 E1 on enclosed inquiry slip

WATER SOFTENERS
automatic and manual types



Series 500 water softeners include models with capacities ranging from 195,000 to 1,920,000 grains. Simplified manual operation is provided by a single lift-turn multiport valve. Automatic models (one of which is shown) utilize the same multiport valve principle, with lifting and turning accomplished automatically by motor, timer, and clock. All automatic models have an auxiliary pushbutton for additional regenerations in addition to the normal clock-actuated four-step regeneration cycle. Duration of each step is regulated by adjusting the timer. • **Elgin Softener Corp.**, 136 N. Grove Ave., Elgin, Ill.

For more details circle NED-205 E1 on enclosed inquiry slip

CORRECTION

In the description of the Deka.Drill HST-714 high speed multiple spindle tapper (*NED, April* '61), it was erroneously stated that the 14-spindle machine performs at up to 16 cycles per minute at 1600 rpm. Actually it performs at up to 60 cycles per minute at this speed. The spindles are adjustable in any pattern within a head area of 7¾ x 12¼ in. Coolant tank with pump and motor and a hydraulically operated table are features. • **Precision Tool & Mfg. Co. of Illinois**, 1305 S. Laramie Ave., Cicero 50, Ill.

For more details circle NED-206 E1 on enclosed inquiry slip

facts and figures about NEW Rapistan® POWER and FREE conveyor

Send today for this new bulletin illustrating application ideas for Power-and-Free overhead conveyor — a coordinated flow system for overhead installation. Shows applications in processing, transportation, storage. Ask for Bulletin 2365.

The RAPIDS-STANDARD CO., INC.
609 Rapistan Building
Grand Rapids 2, Michigan

Rapistan® OVERHEAD CONVEYOR

For more details circle NED-207 E1 on enclosed inquiry slip

Use MOTO-TRUC

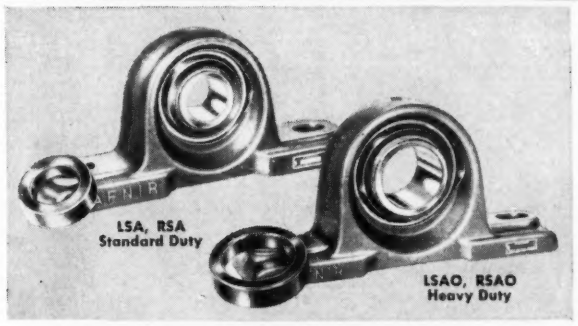
Moto-Truc pallet trucks are built to handle loads in tight places where larger trucks bog down. The standard model — PAL is only 28" longer than the load while the special short-coupled model — PAL-SC is only 24" plus load.

Able to turn in their own length, these tough little walkies are ideal for handling in freight cars, trucks, elevators, narrow warehouse aisles and crowded production areas.

WRITE TODAY... For full information on Moto-Truc pallet trucks.

The MOTO-TRUC Co.
12415 E. 59th STREET • CLEVELAND 3, OHIO

For more details circle NED-208 E1 on enclosed inquiry slip



FAFNIR
BALL BEARING PILLOW BLOCKS

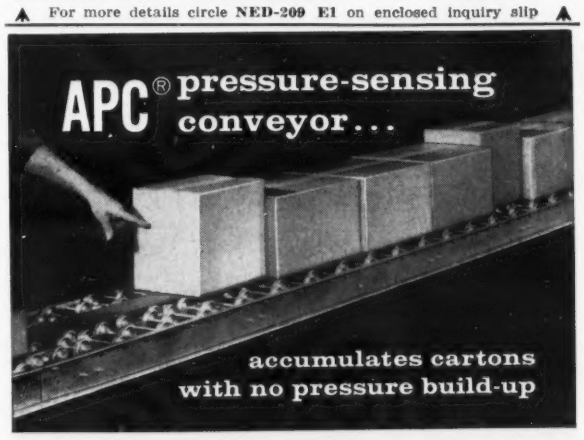
Fafnir designs these pillow blocks for top performance *and* good looks! Smoothly-finished, streamlined cast iron housings complement modern machine design. Features include: Machined bearing seats and bases . . . integrally-sealed, precision ball bearings . . . Fafnir-originated self-locking bearing collars (positive locking; no mounting accessories needed) . . . provision for relubrication. Made to same bolt-hole spacings and base-to-centerheights as Fafnir's SA and SAO units. Ask your Authorized Fafnir Distributor for details. The Fafnir Bearing Company, New Britain, Connecticut.

Contact-type Plya-Seals (RR Series) for slow-to-moderate speeds, dirty service.

Slinger-type Mechani-Seals (LL Series) for friction-free sealing at higher speeds

FAFNIR BALL BEARINGS

For more details circle NED-209 E1 on enclosed inquiry slip



Rapistan APC (automatic pressure) conveyor reduces damaged cartons and contents be reducing line pressure to the practical minimum. In this photo, the conveyor belt is running, but forward pressure is so low that a finger's touch can stop the entire line. The new, safe way to accumulate goods under power in processing, warehousing and shipping operations.

Write for new Bulletin 1200 Illustrating APC Conveyor.

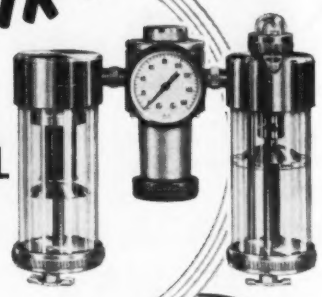
Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
603 Rapistan Building, Grand Rapids 2, Michigan

For more details circle NED-210 E1 on enclosed inquiry slip

LUBRI-AIR®

AIR CONTROL UNITS



Write for Bulletin LA-20M
Dept. NED-561
Bellows-Valvair
Akron 9, Ohio

Automatically filter pressurized air to assure a clean, dry air supply . . . automatically compensate for fluctuations in air pressure . . . automatically compensate for variations in cfm requirements . . . automatically adjust amount of misted lubricant to meet changing cycle rates. ¼" through 1" sizes.

997-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-211 E1 on enclosed inquiry slip

HEAVY-DUTY

AIR CYLINDERS

Write for Bulletin VC-800R
Address:
Bellows-Valvair
Akron 9, Ohio
Dept. NED-561

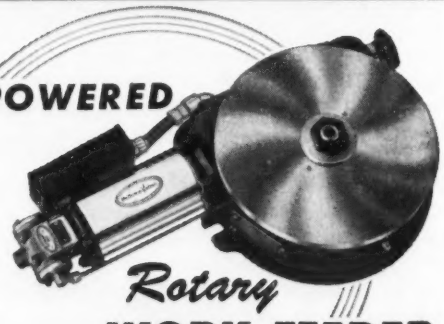
Valvair heavy-duty air cylinders provide dependable performance, long trouble-free life in mass production service. Extra-long rod bearing, Teflon wear ring on piston hold alignment . . . minimize seal wear. Removable port adapters and nose guide simplify maintenance. Wide range of bore sizes and stroke lengths . . . six interchangeable mounting styles.

8185

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-212 E1 on enclosed inquiry slip

AIR-POWERED



Rotary WORK FEEDER

Write for Bulletin RT-1022
Address:
Dept. NED-561
Bellows-Valvair
Akron 9, Ohio

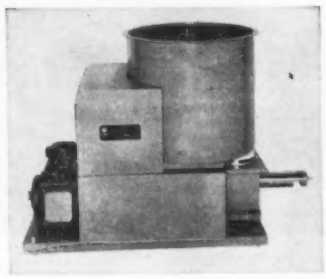
Dial feed work pieces. Cut cost in half. Bellows Rotary Feed Tables are air-powered, electrically controlled for easy interlock with drill press spindles or press rams. All valves and controls are built-in. Ten inch diameter table top can be machined for mounting jigs and fixtures. Adjustable for 4, 6, 8, 12 or 24 feeding stations.

993-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-213 E1 on enclosed inquiry slip

LIVE BIN FEEDERS
meter to 1 per cent accuracy



Positive hoppering action of a live bin is combined with metering accuracy of better than 1 per cent in Vibra Screw live bin feeders for dry materials. Units utilize interchangeable vibrated rotating screws which range in size from ¼ to 4 in. and are powered by ⅓ or ½-hp motors, depending upon size. Screws have metering ranges of 0.12 to 1.2 through 840 to 8400 lb per hour, or 0.003 to 0.03 through 20 to 200 cfh, based on flour weighing 40 lb per cu ft. G-E Polydyne transmission provides a 10:1 speed range. Integral 3-cu ft hopper can be extended to 5 or 8 cu ft on smaller sizes without loss of hoppering effectiveness. • **Vibra Screw Feeders, Inc.**, 156 Huron Ave., Clifton, N. J.

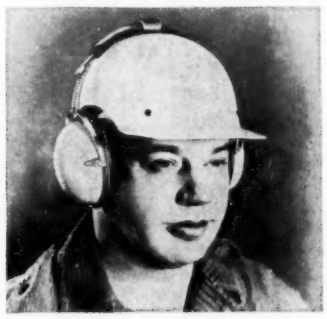
For more details circle NED-214 E1 on enclosed inquiry slip

SMOOTH METAL PRIMER
green color now available

Derusto Galv-A-Grip primer for galvanized metal, terne plate, tin, aluminum, and other smooth metals where adhesion is difficult to obtain is now available in green as well as white, red, and gray colors. G-34 Green is identical to present primers in performance and make-up, and it will protect and beautify galvanized metals and other smooth surfaces without special surface treatment. • **Master Bronze Powder Co.**, 538 W. State St., Calumet City, Ill.

For more details circle NED-215 E1 on enclosed inquiry slip

EAR & HEAD PROTECTOR
combines ear cushions and helmet



Workers exposed to both hearing and head hazards are protected by this No. 281 Sound Barrier which combines sound-attenuating ear cushions with a safety helmet. Replaceable fluid-filled vinyl ear cushions provide soundtight fit and comfort, even with safety glasses. Compact, lightweight headframe is adjustable for correct fit by a slide-lock, without removing from wearer's head. Cushions, cups, sponge pads, and headframe are detachable for cleaning and sterilizing. Protector is available with earphones and earphones with microphone, plus attachments for connecting communications systems. • **Ray-O-Vac Co.**, Willson Products Div., Second & Washington Streets, Reading, Pa.

For more details circle NED-216 E1 on enclosed inquiry slip

VALVAIR®

manual-type AIR VALVES

Write for Bulletin FL-61
Address:
Bellows-Valvair
Akron 9, Ohio
Dept. NED-561

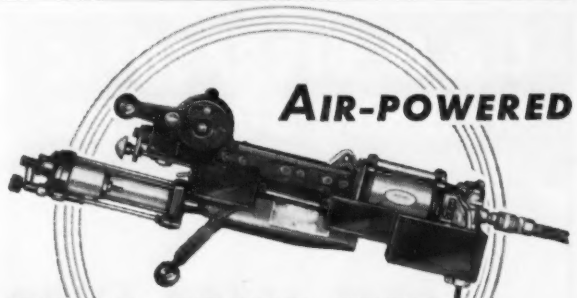
Solve problems with special purpose valves built from standard ends and bodies. 10 interchangeable ends . . . knob, cam, lever, clevis, treadle, cylinder, diaphragm, ball, foot, solenoid. 5 interchangeable bodies . . . 2-way, 3 and 4-way open or piped exhaust. 5 sizes . . . ¼, ⅜, ½, ¾, 1 in. NPT.

8195

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-217 E1 on enclosed inquiry slip

AIR-POWERED



DRILL PRESS FEED

Write for Bulletin DF-110R
Address:
Dept. NED-561
Bellows-Valvair
Akron 9, Ohio

Attaches to the star wheel shaft of any drill press. A touch on the handle sends the drill rapidly to the work, hydraulically feeds through the work, automatically returns to start position. Air-powered, electrically controlled. Feed adjustable to meet needs of any tool working in any material.

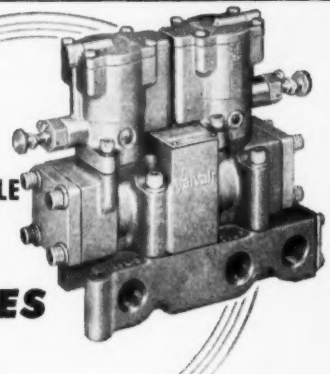
994-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-218 E1 on enclosed inquiry slip

SPEED KING®

SINGLE AND DOUBLE PLUG-IN AIR VALVES



Write for Bulletin SPL
Address:
Bellows-Valvair
Akron 9, Ohio
Dept. NED-561

Permanent piping and wiring connections are made in the sub-base or manifold at assembly. Then valves are plugged in, bolted down. Circuits are completed automatically. Assembly is faster, piping wiring and maintenance are simplified. 4-way type, sub-base or manifold mounted, guaranteed coils for ac or dc, full JIC, 1/4 through 1-1/4 in. NPT.

8182

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-219 E1 on enclosed inquiry slip

AIR-POWERED

DRILL HEAD

Write for Bulletin BL-22
Address:
Dept. NED-561
Bellows-Valvair
Akron 9, Ohio

Not much bigger than a carton of cigarettes, this Bellows-Locke Drill Head is the low cost answer to many machining operations in the softer metals, plastics and wood. Drill capacity from No. 80 to 3/16" drill, 2" stroke. Pulley drive. Also available with hydraulic feed control and built-in valve.

992C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-220 E1 on enclosed inquiry slip

L & R ULTRASONIC CLEANING SOLUTIONS

L & R #112 Waterless Ultrasonic Instrument Cleaning Solution (Ammoniated)

L & R #222 Waterless Ultrasonic Instrument Cleaning Solution (Ammonia-free)

L & R Hydro-Sonic Cleaning Solution Concentrate

are *specific!*

We'll prove it! Send us small parts you find difficult to clean for test cleaning in our laboratory. We will do the job and return the cleaned parts to you, together with a recommendation for the right L & R cleaning solution which you can use in your ultrasonic cleaning equipment. For over 30 years L & R has been a world leader in precision cleaning for the watch and instrument fields. This experience is at your disposal. Or write for a copy of our latest catalog describing L & R's ultrasonic cleaning and rinsing solutions and ultrasonic cleaning equipment.

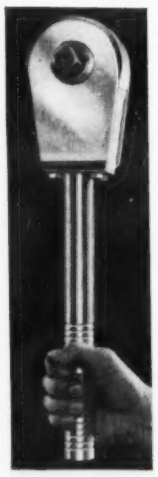
WATCHWORD OF THE WATCHMAKER L & R MANUFACTURING COMPANY
579 Elm Street, Kearny, N. J. • Chicago 2, Ill. • Los Angeles 13, Calif.

For more details circle NED-223 E1 on enclosed inquiry slip

SWENCH®

MANUAL IMPACT WRENCH

Loosens "Frozen" Bolts and Nuts . . . Tightens Accurately

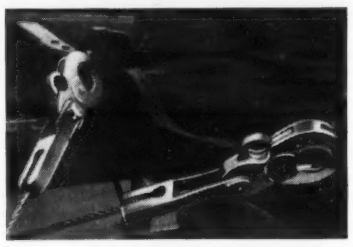


In every type of industrial plant — for maintenance . . . production . . . utility — a SWENCH manual impact wrench does its job with a speed, safety and economy unmatched by any other type of wrench. And a SWENCH is completely portable — requires no auxiliary power source or connection. You can take built-in SWENCH power anywhere . . . use it anywhere — even in hard-to-reach, isolated spots. SWENCH delivers tremendous torsional impact for loosening the most stubborn bolts and nuts — yet is precise enough for the most accurate tightening jobs. There is a SWENCH wrench model for practically every job. Sizes range from ½" square drive to 1½" square drive. Ask your industrial distributor to demonstrate the right model for your job today, or write:

MARQUETTE DIVISION
CURTISS WRIGHT CORPORATION
1145 Galewood Drive • Cleveland 10 • Ohio
Distributed in Canada by Canadian Curtiss-Wright Ltd.
TORONTO & MONTREAL • CANADA AD NO. 32-19

For more details circle NED-224 E1 on enclosed inquiry slip

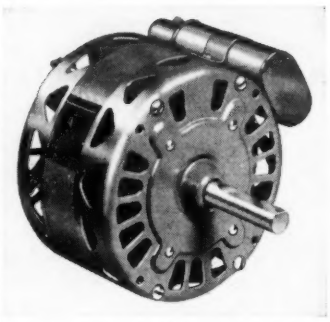
ALL-PURPOSE HOOK can be released under load



Releas-A-Matic all-purpose safety hook can be released while loaded, enabling operator to stand clear while unhooking live loads. Positive lock prevents opening under any load condition, except when intentionally released by the pull ring. Hook will fit practically any type fitting, combines a wide opening with small girth, has a high strength/weight ratio, and combines quick use with the safety of a shackle. • **Merrill Brothers,** Artic Street, Maspeth, N. Y.

For more details circle NED-225 E1 on enclosed inquiry slip

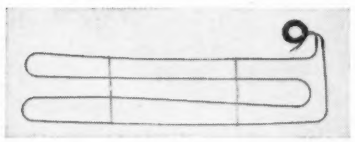
SMALL MOTOR in 1/20 through ¼-hp ratings



This fractional - horsepower, permanent split capacitor motor has a 4⅞-in. diameter and is usable in heating, refrigeration, air conditioning, ventilating, and appliance industries. The Type CR motor provides high starting torque and has low current requirements. It is available in both four and six-pole designs in ratings from 1/20 through ¼ hp. • **Redmond Co.,** Owosso, Mich.

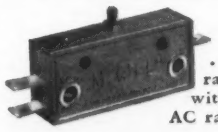
For more details circle NED-226 E1 on enclosed inquiry slip

ICE THAWING CABLE for embedding in concrete, asphalt

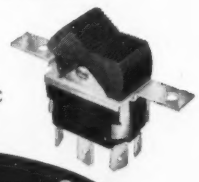


Ice and snow build-up on driveways, ramps, loading areas, and steps can be prevented with Chromalox Thermwire Snow-Bar thawing cable which is embedded in concrete and asphalt work at the time of factory construction. It can also be placed on present asphalt, concrete, or gravel surfaces and covered with a layer of the surfacing materials. Cable will withstand the 300° F heat of hot-pack asphalt. It is available in 24-ft, 400-w and 40-ft, 675-w lengths, both operating on 240 v. These are furnished in 36-in. diameter coils and shaped to any heat pattern desired, or into 10-ft by 18-in. or 6-ft by 18-in. sections. Leads are 10 ft long. Average operating cost is 15 cents an hour for wheel tracks of a 50-ft driveway. • **Edwin L. Wiegand Co.,** 7500 Thomas Blvd., Pittsburgh 8, Pa.

For more details circle NED-227 E1 on enclosed inquiry slip

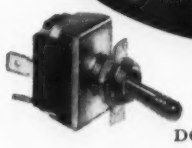


1901 SERIES MOMENTARY CONTACT SWITCHES . . . For applications requiring high ratings and small sizes. 30A, 125-250 V with 2A, 125 V DC and 2 HP, 250 V AC ratings. Choice of actuators.



0800 SERIES ROCKER SWITCHES Heavy duty in SP and DP with 20A, 125 V AC 1½ HP, 10A, 250 V AC 2 HP rating. Variety of circuits.

SPECIFY McGILL® SWITCHES



SP AND DP TOGGLE SWITCHES . . . A full line of reliable Toggle Switches, from 6 to 20 amps., with both DC and HP ratings. Choice of terminals.

SPECIAL SWITCHES FOR EVERY APPLICATION . . . Special Switches, for actuating and controlling many types of circuit arrangements, are engineered to your specific needs.

Send for free Catalog No. 60.

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-228 E1 on enclosed inquiry slip

NEW STAINLESS STEEL BODY

used by hundreds of famous manufacturers

LOW PRICE—LONG LIFE

AIR CYLINDERS

- ¾" Bore—1-1/16" Bore—1¼" Bore
- Single Acting
- Double Acting
- Nose, Pivot or Double end mount
- Stainless or high carbon piston rods
- Hexagon Non-Rotating piston rod
- Built-In Solenoid valve
- Built-In Manual valve
- Mirror finish Stainless Steel tubing
- "U" cup seals not "O" rings
- Exclusive BIMBA Rolled-In construction

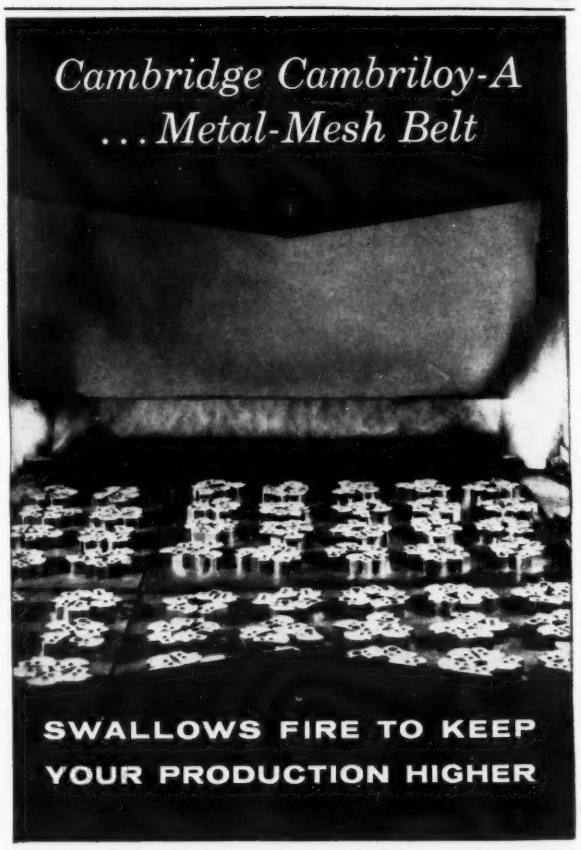
1 1/16" Bore 1" Stroke Double Acting $5.95 EA.

Hundreds of industry users in electronics, plastics, metalworking, petroleum, food, clothing, beverage have famous BIMBA low cost, long life "Throw-Away" air cylinders. Used for air power clamping, minature air vises, jig and fixture control, automatic work feeding, ejecting, stamping, bending, marking and a thousand and one other uses can be applied.

Write for latest catalog and name of nearest distributor. BIMBA MANUFACTURING CO. 110 Main St., MONEE, ILL.

For more details circle NED-229 E1 on enclosed inquiry slip

Cambridge Cambriloy-A . . . Metal-Mesh Belt



2100° F. sintering temperatures are no place for weakling belts. That's why so many sintering installations select Cambridge Belts made of Cambriloy-A alloy. They are specifically designed for high strength in high temperatures and resistance to murderous furnace oxidation atmospheres . . . built to give continuous month after month service and peak production with little or no maintenance.

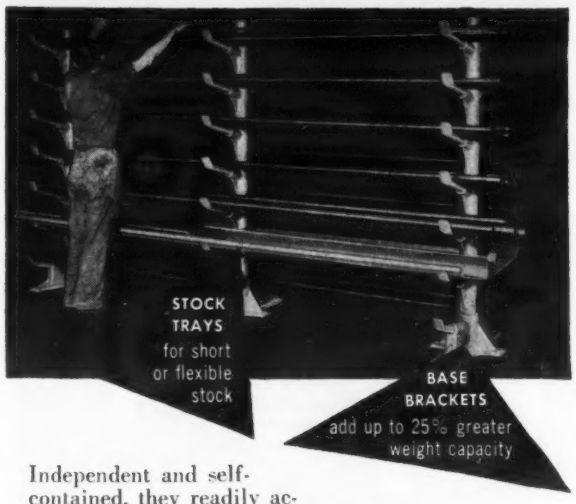
There is a complete line of Cambridge Belts in special and standard metals and alloys to meet your specific requirements—custom built in any one of nine basic weaves to insure the most efficient processing.

Experienced Cambridge Field Engineers—experts in their field—are available to discuss your needs and help you select the belt best suited to your operations. Or, they can offer you sound advice on the installation, operation and maintenance of your Cambridge Belts. Talk to your Cambridge man soon. He's listed in the Yellow Pages under "Belting, Mechanical." Or, write for free 130-page reference manual.

The Cambridge Wire Cloth Co.
DEPARTMENT C • CAMBRIDGE 5, MD.
Manufacturers of
Metal-Mesh Conveyor Belts, Flat Wire Conveyor Belts, Wire Cloth, Wire Cloth Fabrications, Gripper® Metal-Mesh Slings

For more details circle NED-230 E1 on enclosed inquiry slip

FLEXIBLE STORAGE

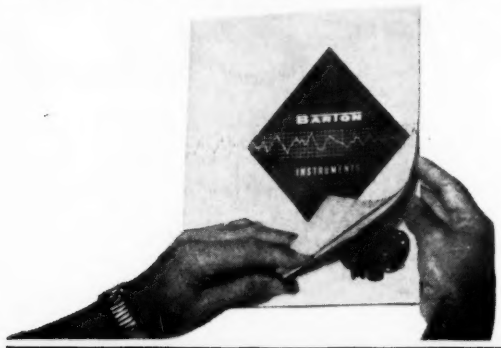


Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, wrap, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-231 E1 on enclosed inquiry slip

GET THIS VALUABLE NEW INSTRUMENT CATALOG



Here's what you should know about Barton differential pressure instruments. Which instruments to use, and where... Why a bellows-type meter is superior to a mercury type... Why certain meters can be over-ranged, why others can't... Descriptions of differential pressure controllers, integrating flow recorders, indicators, recorders, switches and transmitters. All this and more is included in this easy to read reference piece by Barton—and it's yours for the asking. **Write for it today.**

BARTON INSTRUMENT CORPORATION
580 MONTEREY PASS ROAD • MONTEREY PARK, CALIFORNIA

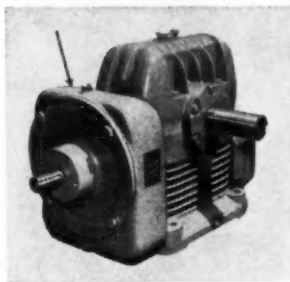
For more details circle NED-232 E1 on enclosed inquiry slip

VACUUM TOOLS for any size Exidust system

Nozzles, floor brushes, and handles for Exidust industrial vacuum cleaning systems are light, durable, and safe. All heads and wands are interchangeable, and each tool fits at any point. Parts lock quickly in place and cannot separate in use. Performance is static-free for safety to operator and machinery. • **Lamson Corp.,** Exidust Div., Lamson Street, Syracuse 1, N. Y.

For more details circle NED-234 E1 on enclosed inquiry slip

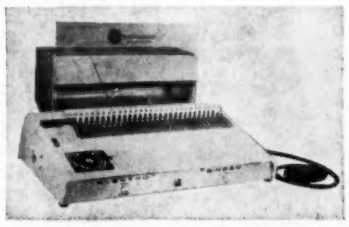
HELICAL ATTACHMENT increases worm gear reducer ratios



Helical gear attachment for Radicon worm gear reducers expands their performance capabilities. Ratios are increased from 30:1 to 304:1 at a mechanical input horsepower range of 0.97 to 22.8 hp. Torque is increased from 19,000 to 39,800 lb-in. Attachment is available for all Radicon fixed-base models with center distances of 4 to 8 in. Duti-Rated gearings and standardized components are used. • **Foote Bros. Gear & Machine Corp.,** Dept. MJ, 4545 S. Western Blvd., Chicago 9, Ill.

For more details circle NED-235 E1 on enclosed inquiry slip

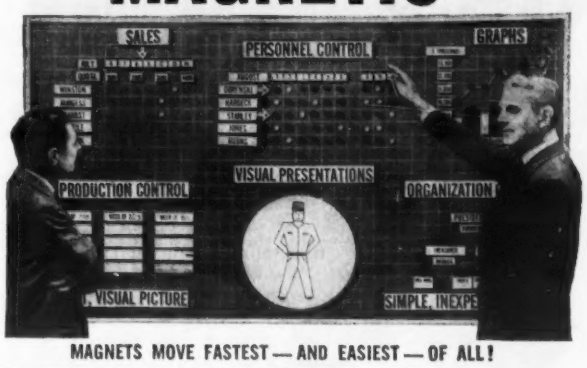
PLASTIC BINDING MACHINE binds 3/16 to 2-in. thick books



Production rate of the Model 316 EB Electro-Binder can be adjusted to the job being handled and geared to individual operator output. The automatic cycling, adjustable speed unit occupies only 2 sq ft of desk space and will bind books in a variety of sizes and in thicknesses from 3/16 to 2 in. Operator adjusts the machine to a rate corresponding to the speed with which a punched book is loaded on the open rings of the plastic binding. Manual foot operation is also possible. Machine uses plastic binding elements available in 14 colors. Operation is on 115 v ac. • **General Binding Corp.,** 1101 Skokie Highway, Northbrook, Ill.

For more details circle NED-236 E1 on enclosed inquiry slip

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NES **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

For more details circle NED-238 E1 on enclosed inquiry slip

WHATEVER YOUR BENDING PROBLEM

Whether it's production bending or piece bending of pipe, tubing, bus bar, reinforcing bar or structural metal, there's a PEDRICK machine to do the job—fine, fast and economically.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"You'll see the complete line of our machines in the NEW PEDRICK LINE BULLETIN. Send for it now."

BEND WITH PEDRICK

See Booth 1624 Tool Show New York, May 22-26

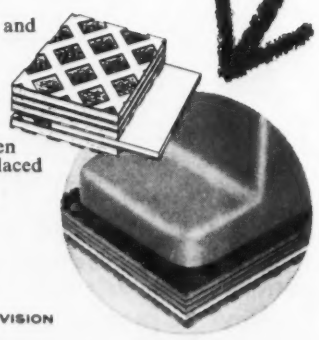
For more details circle NED-239 E1 on enclosed inquiry slip

AIR-LOC MACHINE MOUNTING PADS

... positive vibration control at lowest cost

- Easily installed without cement or bolts
- For leveling, shim between top and bottom pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
- Air-Loc is re-usable when machine is moved or replaced

Write for full information and sample.



Air-Loc DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

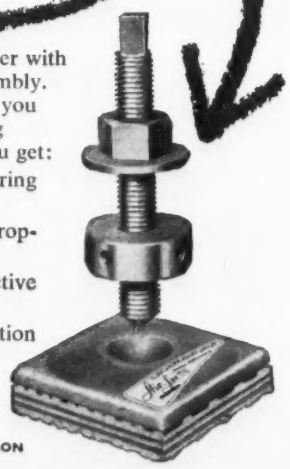
For more details circle NED-233 E1 on enclosed inquiry slip

JACMOUNT ECONOMICAL MACHINE MOUNTS

...dampen 85% of vibration and shock

Jacmounts are available either with or without a jackscrew assembly. You can purchase only what you need for your own mounting requirements. Either way you get:
- A mount only 1" high assuring a minimum of motion
- The superior dampening properties of an Air-Loc pad
- A low cost, yet highly effective machine mount

Write today for full information



Air-Loc DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-237 E1 on enclosed inquiry slip

WEDGMOUNT ADJUSTABLE MACHINERY MOUNTS

... control the vibration of any machine

- Easily installed without bolts or cement
- Wide range of sizes to mount any machine
- Easy leveling adjustment
- Other models for use where bolting to the floor is mandatory, or where mount becomes integral part of machine tool.

Write for full information.

Air-Loc DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-240 E1 on enclosed inquiry slip

Don't throw maintenance money away!

NoDrip TAPE PERMANENTLY PROTECTS AGAINST CONDENSATION AND RUST AT LOWEST COST.

Any maintenance man can check this. Handy 16' rolls of ¼" thick NODRIP TAPE fits any size pipe or fitting. Never absorbs moisture. *Permanently* insulates against damaging pipe sweating—even around unions, tees, angles and valves.

NoDrip PLASTIC COATING

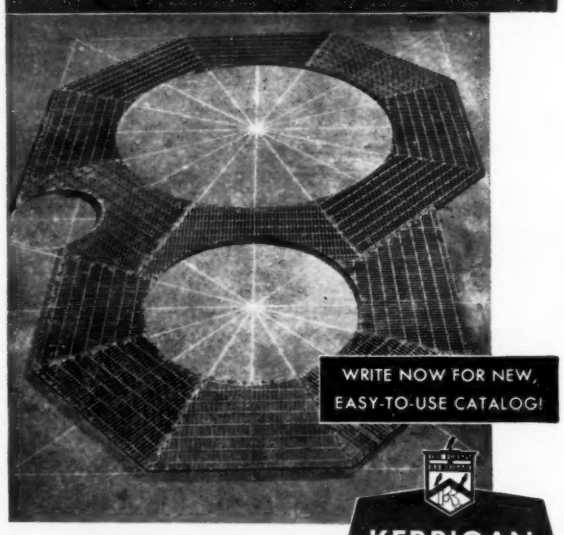
Another fine Mortell product. Use on metals, concrete, brick, tile, plaster surfaces. Apply by brush, trowel or spray to large pipes, tanks, walls, ceilings, air ducts, to eliminate sweating. 1 or 5 gal. cans or 55 gal. drums.

At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook, write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

For more details circle NED-241 E1 on enclosed inquiry slip

PERFECT FITTING . . . Grating Panels



KERRIGAN
IRON WORKS COMPANY
Nashville, Tennessee

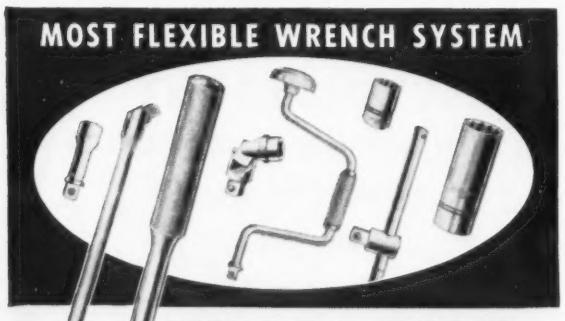
- *INSURE JOB-SITE ACCURACY*
- *NO COSTLY CORRECTIONS*

ADDRESS: DEP'T. N-5

Unretouched photograph shows shop assembly of grating panels. Note exact fit of panels to drawing! Specify Kerrigan's electronically weldforged steel grating . . . . . and get carefully inspected, match-marked panels for easy field assembly.

For more details circle NED-242 E1 on enclosed inquiry slip

MOST FLEXIBLE WRENCH SYSTEM



WILLIAMS
DETACHABLE
SUPERSOCKETS®

Save valuable time with these versatile SUPERSOCKETS®. Regular, deep and universal sockets come in hex, 12 pt., square and 8 pt. styles from 3/16" to 3-1/8". Metric openings from 10 to 36 mm. Five square drive sizes: ¼", ⅜", ½", ¾" and 1" . . . plus ratchets, extensions, and special attachments to form hundreds of wrench combinations.

Made from selected alloy steel, heat-treated and chrome-plated. Order from your Williams Industrial Distributor.

88 DRIVERS & ATTACHMENTS
235 SOCKETS—5 DRIVE SIZES

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-243 E1 on enclosed inquiry slip

CABLE REEL HANGER
holds a 3000-lb reel on pipe

Heavy wire and cable reels can be safely suspended for unspooling on this Kee Klamp hanger. This threadless Model 64-6-8, intended for use with 1½ in. pipe and other Kee Klamp fittings is a galvanized malleable casting that will safely hold a 3000-lb reel. As an extra safety measure, reels can be locked in place with two cap screws. • **Kee Klamps North American Ltd.**, 1079 William St., Buffalo 6, N. Y.

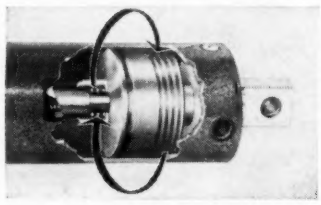
For more details circle NED-244 E1 on enclosed inquiry slip

PNEUMATIC VIBRATING FEEDER
is hopper type for bulk materials

Bulk materials and small parts are fed at controlled, adjustable rates with this hopper type, air-powered, vibrating feeder. Fitted with a 1½-cu ft hopper, it can feed up to 6000 lb of granular material per hour. It will also handle cement, dusty powders, and other dry materials. Feeder can be made dust-tight or waterproof, and is easily installed in a processing or handling line. Manual or electric solenoid control is possible. • **Cleveland Vibrator Co.**, 2828 Clinton Ave., Cleveland 13, Ohio.

For more details circle NED-245 E1 on enclosed inquiry slip

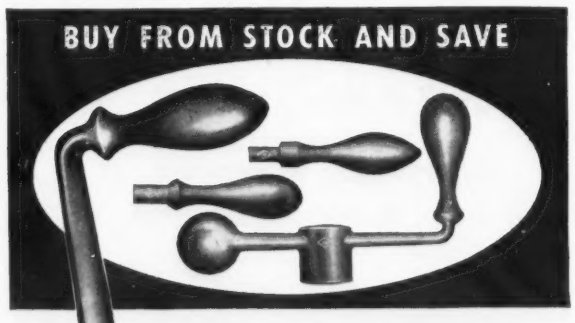
AIR CYLINDERS
stroke adjustable to precise length



Series of 1/16-in. thick spacing washers make it possible to adjust the stroke length of stock Modernair cylinders to exact fractional-inch requirements. Cylinders are made in stroke lengths increments of 1 in. Thus, if a user requires a 10⅝-in. stroke length, he orders an 11-in. stock length, then removes six front spacing washers and adds a corresponding number of rear spacing washers. Stroke length is reduced to 10⅝ in. without disturbing mounting dimensions. This Adjust-O-Stroke feature is offered on Economair Series R, Provenair Series M and VIH (valve-in-head) cylinders, and on the Modernair power machine control unit. • **Modernair Corp.**, 400 Preda St., San Leandro, Calif.

For more details circle NED-246 E1 on enclosed inquiry slip

BUY FROM STOCK AND SAVE



WILLIAMS
DROP-FORGED
HANDLES

Why use "specials" when Stock Handles from your Williams Industrial Distributor can do the same job and save you money? Eleven Crank Handles from 1¾" to 10" (C. hub to C. handle). Eight Balance Handles from 1¼" to 3⅞" (C. hub to C. handle). Nine Ball Pattern Machine Handles from 2" to 6⅝" long. Four Cone Pattern Machine Handles from 3½" to 6". Crank and balance handles heat-treated.

4 STYLES, 62 STOCK ITEMS
HANDLE MOST REQUIREMENTS

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-247 E1 on enclosed inquiry slip

FEATURES FOR FASTER PRODUCTION

EATON RELIANCE DIVISION
MANUFACTURING COMPANY
509 CHARLES AVENUE · MASSILLON, OHIO

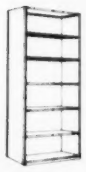
SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-248 E1 on enclosed inquiry slip

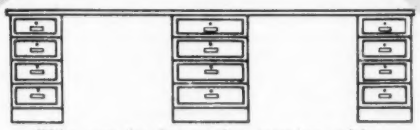
SHOP EQUIPMENT AND STEEL SHELVING

Modular Benches • Steel Shelving • Work Benches • Stock Carts • Handicabinet® Benches • Service Trucks • Stacking Boxes • Parts Bins • Small Parts Cabinets and Cases.

Bay



When you need steel equipment priced right—produced right—and delivered right on time—specify BAY, for integrated service. In long use, all products have proven to be designed properly, produced properly . . . BAY products, unconditionally guaranteed, normally are in stock (including all the new lines) ready for immediate shipment. For top quality products, quick delivery, specify BAY.



Write now for free catalog, complete pricing information, and the name of your local distributor.

BAY PRODUCTS DIV.
AMERICAN METAL WORKS INC.
1821 W. Cambria St., Phila. 32, Pa.
BAldwin 9-1805

For more details circle NED-249 E1 on enclosed inquiry slip

STRENGTH • DESIGN • ECONOMY

WILLIAMS
INDUSTRIAL BLACK
WRENCHES

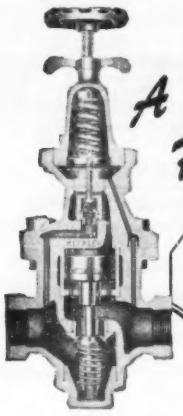
Here is the same high quality design and manufacture as the famous Williams' Alloy Wrenches with the following industrial features. New, rust-resistant black oxide finish, chemically applied, lowers cost . . . will not chip or wear off. High lustre head and face polishing are omitted to lower average cost. These economy features are important where wrench replacement rate is high. Made from strong, tough steel, carefully heat-treated. See your Williams Distributor.

33 PATTERNS—554 STYLES
OPENINGS FROM 3/16" TO 7-5/8"

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-250 E1 on enclosed inquiry slip



A Favorite in Processing Plants

KECKLEY
STEAM OR AIR PRECISION PRESSURE REGULATOR

Type AA

Processing requirements are critical. It is important that the proper regulator be selected. Keckley provides precision-engineered and constructed pressure regulators for these exacting service conditions. Insist on the best, specify Keckley.

Standard valves suitable for pressures to 300 lbs. steam, 600 lbs. air. Complete size range, ½" through 6", for all capacity requirements. Bronze or semi-steel bodies with hardened stainless steel Unit Pilot Valve, main valve and seat. Factory tested, field proven.

Write for Bulletin No. 160 or specific application recommendations

Stocked by leading industrial distributors

O. C. KECKLEY COMPANY
General Offices and Factory
3400 CLEVELAND ST., SKOKIE, ILLINOIS
KECKLEY
Pressure Regulators • Temperature Regulators • Float Valves
Strainers • Solenoid Valves • Reducing Valves
Pop Safety Valves • Relief Valves

For more details circle NED-251 E1 on enclosed inquiry slip

10 REASONS FOR CHOOSING A-C LIFT TRUCKS

1. Better performance with Allis-Chalmers heavy-duty industrial engine.
2. Rigid, deep-section steel frame.
3. Outstanding gradability and stability.
4. Faster travel speeds.
5. Choice of standard transmission or POWER SHIFT.
6. Operator works in comfort.
7. Choice of masts, many interchangeable attachments.
8. Extra reserve of electrical power with 12-volt system.
9. New steel hydraulic lines eliminate chafing and vibration wear.
10. Less downtime because of outstanding ease of servicing.

Let your dealer show you the many other features of these better-than-ever trucks. Allis-Chalmers, Milwaukee 1, Wis.

ALLIS-CHALMERS A-C
POWER FOR A GROWING WORLD BH-158

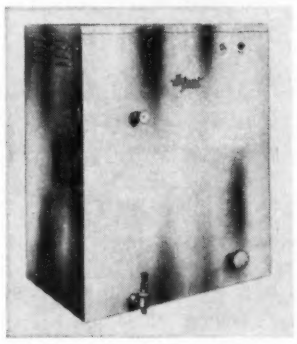
For more details circle NED-252 E1 on enclosed inquiry slip

FAUCET REBUILDING KIT
contains total of 1980 pieces

All of the essential repair parts needed to rebuild modern faucets of almost every make and type are contained in a compact, easy-to-carry Sexauer-System Faucet Rebuilding Unit. Contents include 1980 pieces in seven different assortments. Each assortment is in a separate compartmented Handy Andy case. It weighs 23 lb loaded. Included are assorted removable full saddle seats, faucet seat wrenches, washers, screws, top gaskets, swingspout packings, friction and snap rings, bonnet coupling washers, and faucet stem packings. • **J. A. Sexauer Mfg. Co.**, 2503 Third Ave., New York 51, N. Y.

For more details circle NED-254 E1 on enclosed inquiry slip

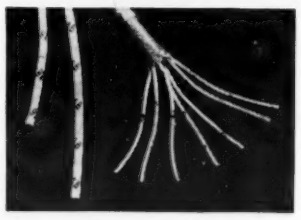
WATER STILL
in 2, 3, and 5-gph capacities



Enclosed Hy - Thermco water still and storage tank are assembled in a single stainless steel cabinet designed for wall or counter mounting without brackets. Controls include a level device which keeps water within evaporator at safe level, a low water cut-off to prevent burnout, and a storage tank level control to maintain full pure water supply for continuous operation. An air breather filter protects distillate from contamination. Electric heating stills for hard water are available in 2, 3, and 5 gph capacities, with larger sizes optional. • **Electric Hotpack Co.**, 5055-A Cottman Ave., Philadelphia 35, Pa.

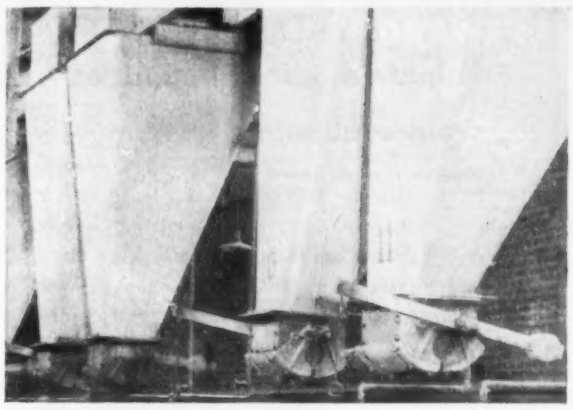
For more details circle NED-255 E1 on enclosed inquiry slip

NUMBER-CODED CABLE
for use in electronic circuitry



Multiconductor cables used in electronic and other complex circuitry can be imprinted with code numbers or letters. Circuit identification is practically foolproof. The process employs fluorocarbon inks which are sintered so that they become a permanent part of the Teflon wire insulation. • **American Super-Temperature Wires, Inc.**, W. Canal Street, Winooski, Vt.

For more details circle NED-256 E1 on enclosed inquiry slip



Jeffrey BIN VALVES...
Manually or Power-Operated

The quick operating clam shell bin valve is available in standard sizes with openings from 12" x 12" up to 24" x 48". Jeffrey also offers single gate, side discharge, and rotary types for various services.

Bin valves can be directly connected to a lever or through gears for easier manual operation, or power-operated. For recommendations and prices, write The Jeffrey Manufacturing Company, 952 North Fourth St., Columbus 16, Ohio.

JEFFREY

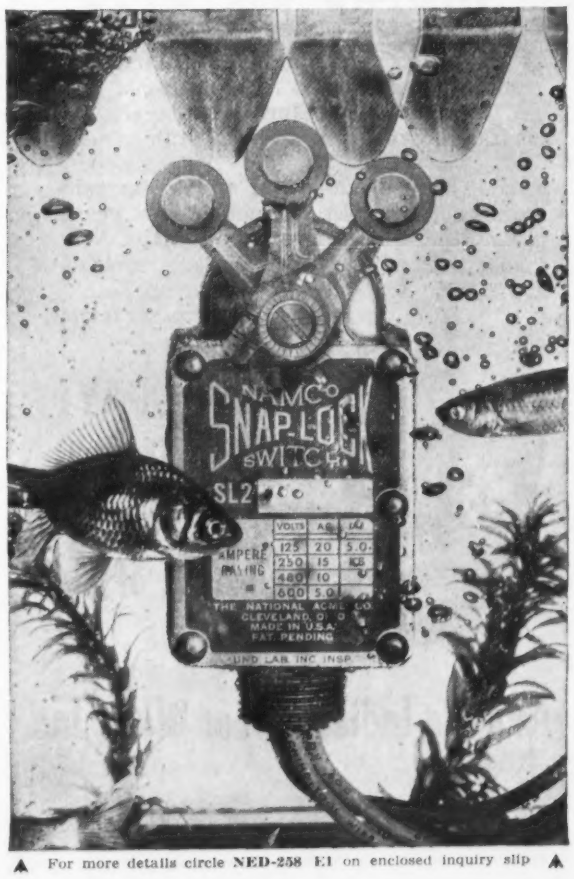
CONVEYING • PROCESSING • MINING EQUIPMENT...TRANSMISSION MACHINERY...CONTRACT MANUFACTURING

For more details circle NED-257 E1 on enclosed inquiry slip

Take a close look at this new limit switch! It's so immune to moisture, we'll guarantee it, electrically and mechanically, for one year or 10,000,000 operations...whichever comes first. We call it our Super-Sealed SL2-T. If you've ever had limit switch trouble caused by water, soluble oils, condensate or *any* kind of moisture, you'll want complete details. Call, write or wire. **National Acme**

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.



For more details circle NED-258 E1 on enclosed inquiry slip

NEW 16 oz. Can
33⅓% more ink
no increase in price!

REYNOLDS
the original and proven best first stencil ink to be packaged in the handy aerosol container.

FAST • EASY • CLEAN
STENCILING
on corrugated cartons, metal, wood, paper, concrete or any other surface.

• Easy to hold aerosol container sprays a dense, compact cone of specially formulated waterproof ink at the touch of a finger. Very opaque. Dries instantly. 9 colors. Easy to store. No waste or mess. Used and endorsed by thousands of well known companies from coast to coast. A trial will convince you. Get full details!

Widely Used for Stenciling Assembly and Maintenance Instructions, Product Coding and Other Marking.

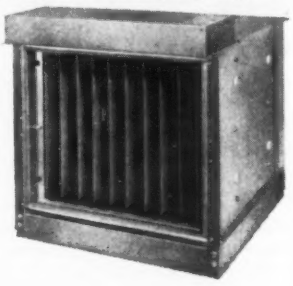
Write for Bulletin No. 601 Today!

REYNOLDS INK, Inc.
2077 East 65th Street • Cleveland 3, Ohio

For more details circle NED-253 E1 on enclosed inquiry slip

Eliminate airborne impurities from ventilating systems

Specify Dollinger Hi-Velocity Electronic Air Cleaners. Entirely new, highly efficient, they remove 90% of all dirt, including smoke, dust, pollen, oil mist. Simple one-unit design . . . fewer parts to assemble . . . lighter weight for easy installation . . . overhead mounting possible. Come in single units of 1200 and 1800 CFM; any capacity in multiple units. Consult your local Dollinger representative or write for Bulletin 405. Dollinger Corporation, 49 Centre Pk., Rochester 3, New York.



PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

For more details circle NED-259 E1 on enclosed inquiry slip

no need to design new RUBBER molds and dies!

choose from Atlantic India's

thousands of rubber molds and dies

A 40 year accumulation of molds and dies are now on hand at Atlantic India, ready to serve you. Chances are one of our standing molds or dies will fit your needs.

If it happens that your application calls for a unique rubber product we have years of "know-how" at your command. What ever your need, washers, gaskets, molded parts, extrusions, sheet or sponge rubber, Atlantic India is ready to serve you.

SEND TODAY! Catalog No. 52 158 pgs. showing thousands of diagrams

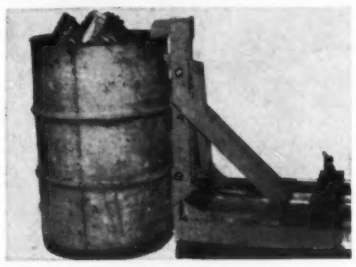
Atlantic India Rubber Wks., Inc.

Producers of the AIRWIN line of Rubber Products

573 West Polk St., Chicago 7, Illinois

For more details circle NED-260 E1 on enclosed inquiry slip

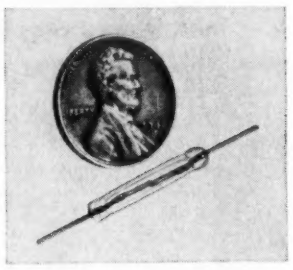
OPEN-HEAD DRUM HANDLER
slips on forks of any lift truck



New or battered open-top 55-gal steel drums are safely handled by the Kughler Openhead-Drumaster, a mechanical, simple-to-operate drum handler that slips onto the forks of any lift truck. Gripping head consists of a hook and jaw which automatically grips drum a few inches below the rim. A drum-support plate at the base of the attachment activates the gripping jaw. Load is released only when drum is set down. Capacity is 2000 lb. • **Little Giant Products, Inc.**, 1530-50 N. E. Adams St., Peoria, Ill.

For more details circle NED-261 E1 on enclosed inquiry slip

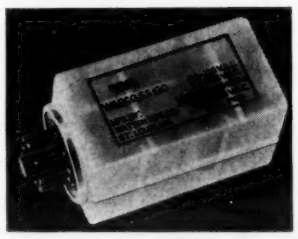
MAGNETIC REED SWITCH
rated at 12 va maximum



Life expectancy of over 5 million operations at full rating is claimed for the MRG-1 magnetic reed switch. Its 1/8-in. diameter glass body is only 3/4 in. long; over-all length with 0.022-in. diameter leads is 1 1/2 in. Gold plated contacts in the dry reed unit are hermetically sealed in an inert atmosphere. It is rated at 12 va maximum, up to 1/2 amp resistive and up to 250 v ac. Contact resistance is 40 to 60 milliohms, plus 40 milliohms lead resistance. Normally-open, normally-closed with bias magnet, and latching arrangement are available. • **Hamlin, Inc.**, Lake & Grove Streets, Lake Mills, Wis.

For more details circle NED-262 E1 on enclosed inquiry slip

PLUG-IN RELAY
snap-action type is replaced

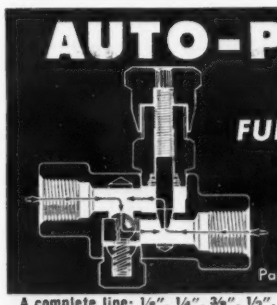


Enclosed Model SS120 double-pole double-throw snap-action relay is a low cost plug-in unit measuring 2 13/16 x 1 1/2 x 1 13/16 in., excluding pins. Easily serviced or replaced relay has a molded nylon enclosure which withstands continuous high temperatures. Snap-action switches are each rated at 10 amp, 120 v ac; 5 amp, 240 v ac; and 1/3 hp at 120 or 240 v ac. Inductive loads can be handled. • **Warco Industries, Inc.**, 569 Melville, St. Louis 30, Mo.

For more details circle NED-263 E1 on enclosed inquiry slip

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841, 174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

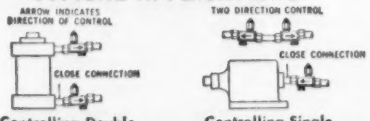
Model F Standard Flow Control Valve or Model H Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO PONENTS INC. 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-264 E1 on enclosed inquiry slip

STICHT TACHOMETERS

FOR EVERY NEED . . . EVERY SPEED

PORTABLE HAND TACHOMETERS

CENTRIFUGAL AND CHRONOMETRIC TYPES

With one, three or five ranges in one instrument. All speeds 0-100,000 RPM.

Bulletins 735, 751, 756, 765, 790

CENTRIFUGAL STATIONARY TACHOMETERS

For permanent mounting on machines. Model J. Sizes 3 in., 4 in., 5 1/2 in., 8 in., and 10 in. dial diameters. Flexible cable driven. Many standard ranges reading RPM, FPM, YPM, etc.

Bulletins 793, 794, 795, 796, 798

HIGH INTENSITY STROBOSCOPE

MODEL 510 AL

With Brilliant Daylight Flasher Unit for maximum readability. Range 60-15,000 RPM "Industry's Seeing Eye"

Bulletin 780

VIBRATING REED TACHOMETERS

PORTABLE AND STATIONARY TYPES

Measure speed by touch. Many different ranges from 600-60,000 RPM. *Bulletin 770*

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

For more details circle NED-265 E1 on enclosed inquiry slip

"Foreman's Helper"

Servis Recorder Model M operates electrically, can be installed in foreman's office.

Makes a Record of

PRODUCTION TIME & DOWN TIME

of any machine

This device is called the SERVIS RECORDER. It gives you a precise work record of any machine. If a machine is idle the Servis Recorder reports exactly when and how long the delay lasted. Records are permanent, easy to read, easy to file. They enable you to improve scheduling, determine the cause of down time, and help you set rates.

Mechanical models which attach to machines, lift trucks or vehicles are also available.

WRITE TODAY!

WRITE TODAY! Full information will be mailed to you at once.

THE SERVICE RECORDER COMPANY

1013A ROCKWELL AVE. • CLEVELAND 14, OHIO

For more details circle NED-266 E1 on enclosed inquiry slip

air compressors

Kellogg-American compressors are engineered for **longer trouble-free life.** More delivered air power per kilowatt hour means lower operating cost. Warehouses and parts depots throughout the country for faster shipment and service.

Complete size range—1/3 thru 20-H. P.

Single and two-stage models.

The compressor is the HEART of your business.

Keep it ticking.

WHAT ARE YOUR NEEDS? *For full details write to:*

Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

For more details circle NED-267 E1 on enclosed inquiry slip

APCO TORQUE TOOLS TO MEET EVERY REQUIREMENT

Apco Mossberg manufactures over 75 standard styles of torque tools ranging from an inch gram to 2000 foot pounds. In addition, they build many special tools for specific applications.

Every Apco torque tool is manufactured to rigid specifications to assure you the best available. They meet government standards, and are built to withstand 50,000 flexes without adjustment.

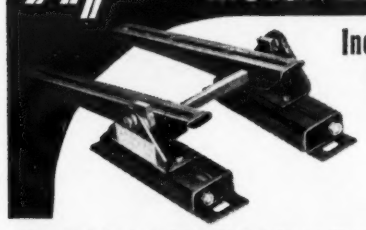
The Apco Mossberg Catalog of Torque Tools describes all styles, giving full information as to capacity, sizes and price. Write for your copy now.

- Special Purpose Wrenches
- Original Equipment Wrenches
- Torque Tools

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

For more details circle NED-268 E1 on enclosed inquiry slip

ECON-O-MATIC Motor Base



Increases Production
Doubles Belt Life
Cuts Maintenance Time 75%

The ECON-O-MATIC Motor Base controls belt tension *automatically*, maintains driven speeds even at peak loads, thus affording a substantial increase in production (often as high as 15%). Shock loads are absorbed, and belt slack taken up smoothly, instantly while the drive is operating. Belt slip is negligible, and tension is reduced up to 50%, doubling belt life. Frequent replacement and adjustment are eliminated, cutting maintenance and downtime 75%.

American ECON-O-MATIC Motor Bases come in a complete range of sizes for all NEMA frame motors through 250 HP—and all models are available for immediate delivery from your nearby AMERICAN PULLEY Distributor.

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

For more details circle NED-269 E1 on enclosed inquiry slip

NEW AIRETOOL 400-T

cuts sheet metal tapping costs

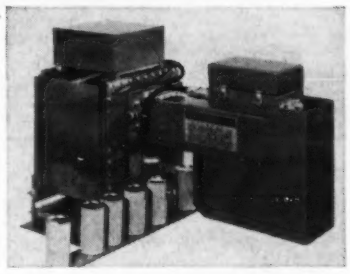
AND its powerful air motor increases production, too. Lightweight (less than 3 pounds with chuck) . . . maneuverable (pistol grip handle) . . . yet, rugged enough (heavy duty heat-treated aluminum alloy housing and steel alloy operating parts) to meet 'round-the-clock production schedules. And, it's efficient . . . operates at 400 rpm on friction ball or roller bearings . . . muffled motor reduces noise level, cuts operator fatigue . . . push button reversing action. To get a free, in-plant demonstration of the 400-T, or any of Airetool's complete line of pneumatic production tools, call your local representative . . . he's in the Yellow Pages . . . or, write direct.

AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO

Representatives in principal cities of the free world

For more details circle NED-270 E1 on enclosed inquiry slip

CONTAINER INSPECTOR
x-ray type checks fill height of 1000 containers per minute

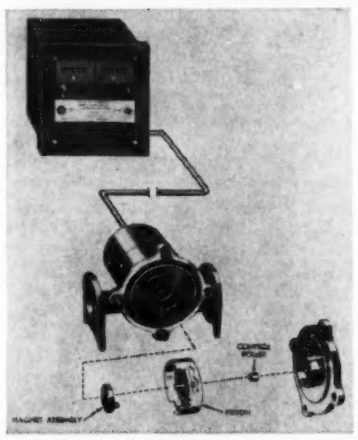


Accuracy of the Hytafill 1000 container inspector is within ±1/64 in. of established inspection level, or 2½ grams in a 12-oz container. The x-ray unit detects either underfill or overfill conditions at a speed of 1000 containers per minute, and can actuate a reject mechanism for removal of unacceptable containers. Major components are a tube head and detector assembly (shown) and a control unit.

Device monitors the fill height of any sufficiently dense liquid or free-flowing solid which seeks its own level in an appropriate size metal, plastic, or glass container of either regular or irregular shape. Safety of personnel is assured because x-radiation can be turned off completely when the unit is not operating. • **General Electric Co.**, X-Ray Dept., 4855 W. Electric Ave., Milwaukee 1, Wis.

For more details circle NED-271 E1 on enclosed inquiry slip

LIQUID FLOW METERS
stainless steel types for handling corrosives have remote control



By using an oscillating piston and magnetic drive, all of the liquid metered by these liquid flow meters is confined within the measuring chamber. Piston of any of several metals, magnet assembly, and control roller are the only parts in contact with the liquid. They are made of stainless steel which resists the corrosive effects of most liquids and chemicals. Meters are made in 1 and 2-in. sizes with several types of reading devices.

Smaller size can be installed with a remote readout or a remote repeat batch controller. Latter provides automatic repeat batching and mixing of liquids from a remote panel and includes a six-digit reset totalizer. The 2-in. size is used with remote batch control or any of three different reading devices. Accuracy is within ±½ per cent. • **Badger Meter Mfg. Co.**, Industrial Products Div., 4545 W. Brown Deer Rd., Milwaukee, Wis.

For more details circle NED-272 E1 on enclosed inquiry slip

PRE-PRINT CONTAINERS for EXTRA PROFITS

. . . . . use industrial's NEW AUTOPRINTER!

With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line . . at up to 3,000 impressions per hour!

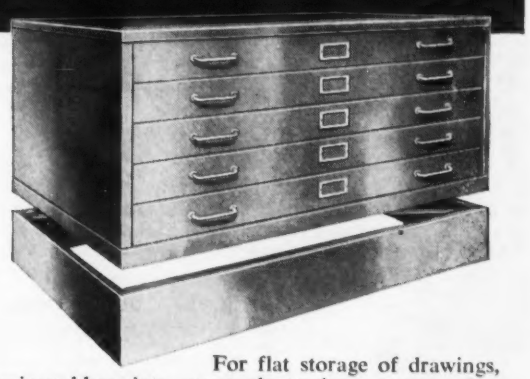
Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog today. Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

For more details circle NED-273 E1 on enclosed inquiry slip

LYON® FLAT DRAWER FILES



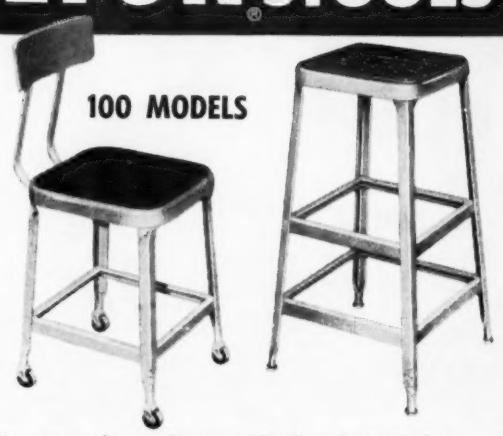
For flat storage of drawings, tracings, blueprints, maps, charts, large papers, photographs, etc. Hinged paperweight on front, and protecting hood on back of drawer prevent edges of paper from curling. Each cabinet has five drawers. Cabinets may be stacked one above the other to any desired height. Finish, gray baked-on enamel.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle NED-274 E1 on enclosed inquiry slip

LYON® STEEL STOOLS



You name the requirement—there's a Lyon stool to meet it. With or without backs—ventilated steel or pressed wood seats—glide, swivel caster or rubber-cushioned feet. Adjustable legs if desired. All stools built of heavy-duty steel, all-welded construction. Finished in gray baked-on enamel.

Write for free 100-page Lyon Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle NED-275 E1 on enclosed inquiry slip

LYON® WORK BENCHES

NEW MODULAR TYPE

Permits individual bench or multiple-bench arrangement to requirements. Steel top, cabinet and four drawers. Drawers are 15¾" wide, 20" deep, 6¾" high. Available with pressed wood or hardwood top, if desired. 28" deep, 34" high and 60" or 72" long.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
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WHEREVER SOMETHING STICKS

Modern Packaging Engineers Use

IMS

SILICONE FLUID SPRAY

WHEREVER ANYTHING STICKS TO METAL SURFACES-ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-278 E1 on enclosed inquiry slip

EASTERN takes the gamble out of selecting POSITIVE DISPLACEMENT PUMPS

For small volumes against relatively high pressures, (200 psi) the Eastern GW series gear pumps are a natural. In each pump, oversized bearings of impregnated graphite support a drive gear of stainless steel and an idler of special bronze material. These self-priming units require no lubrication and cannot contaminate the liquid being pumped. For volumes from 1.5 to 6 gpm and pressures to 60 psi, you can't beat Eastern VW series vane pumps. These highly efficient units are designed around a cam-shaped pumping chamber assuring pulsation-free liquid flow. All Eastern positive displacement pumps are close-coupled with motor or can be furnished less electric motor with belt stand for belt or coupling drive. Write for Eastern's new Bulletin 220 on positive displacement pumps.

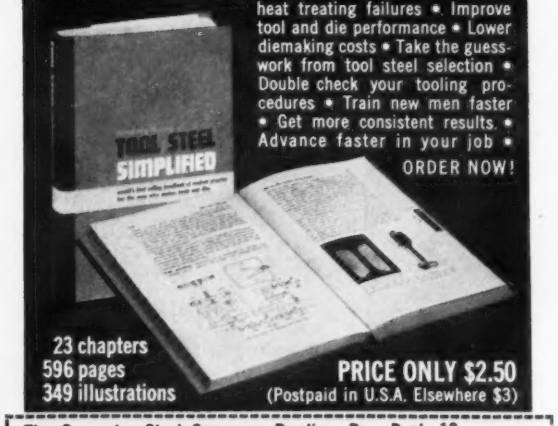
EASTERN INDUSTRIES INCORPORATED
Hamden, Connecticut

For more details circle NED-279 E1 on enclosed inquiry slip

NEW INFORMATION for every tool and diemaker!

The new edition of TOOL STEEL SIMPLIFIED gives you proved job-help found in no other book! • Put your toolroom on a profitable, competitive basis • Reduce heat treating failures • Improve tool and die performance • Lower diemaking costs • Take the guesswork from tool steel selection • Double check your tooling procedures • Train new men faster • Get more consistent results • Advance faster in your job •

ORDER NOW!



23 chapters
596 pages
349 illustrations

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Please send the NEW Tool Steel Simplified at low price of $2.50. Check or money order enclosed.
Name_____ Title_____
Company_____
Address_____
City_____ Zone_____ State_____
(please print)

For more details circle NED-280 E1 on enclosed inquiry slip

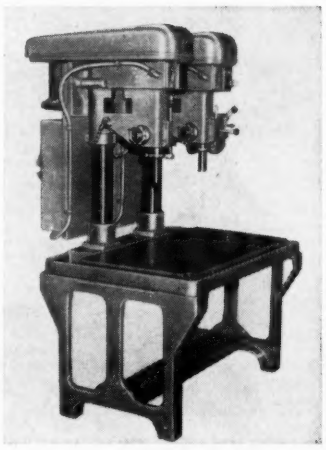
HAND MAGNET
for handling, feeding, recovery of parts has instant-release trigger

Feeding round, square, or irregularly shaped sheets into presses, shears, and other production equipment, and small parts recovery, packing, sorting, and weighing are uses for this manually operated magnet. It picks up and holds a quantity of loose nuts, bolts, screws, or other light ferrous objects. Squeezing its plunger-like handle instantly releases them. Positive grip is assured on wet, greasy, sharp, or hot objects.

The stainless steel cased magnet effectively separates stacked metal sheets and is adjustable to accommodate various weights and thicknesses. Light duty unit handles 3 lb of loose parts, larger pieces to 30 lb, and maximum thicknesses of 16-gage in sheet separation; heavy duty unit has 5 and 50-lb capacities, and separates 11-gage sheets. • **Jess Corp.**, Magnetic Products Div., 15770 Telegraph Rd., Detroit 39, Mich.

For more details circle NED-281 E1 on enclosed inquiry slip

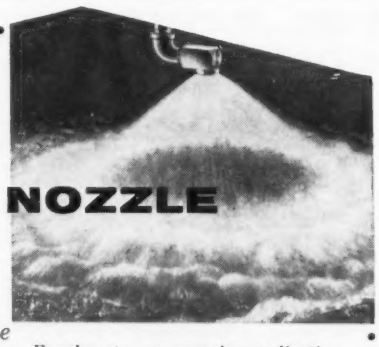
DRILLING MACHINES
mild steel capacity is 1 in. in one to six-spindle units



Floor drill, standard bench drill with tilting table, production bench drills with 1 to 6 spindles, and pedestal type drills with 1 to 6 spindles comprise the No. 20 line of drilling machines. Built with easily accessible controls, they have a 1-in. mild steel capacity. Belts on five-step geometrically progressed pulleys are changed without adjusting the motor bracket. Spindle return spring is adjusted by hand without tools.

The depth bar stop is equipped with an easily adjustable collar for sensitive or power feed. A split bushing type locking device locks the frame on the column. Spindle travel is 6 in. Options include power feed, variable speed drive, and head raising device. Table raising device and oil trough table are available on bench or floor models. • **Buffalo Forge Co.**, 490 Broadway, Buffalo 5, N. Y.

For more details circle NED-282 E1 on enclosed inquiry slip



got a SPRAY NOZZLE *problem?*

perhaps one of our DATA SHEETS *can suggest a solution*

For almost every spraying application, there's a Spraying Systems Data Sheet that gives useful information on suggested installations and types of nozzles to use. If you have a problem, write and let us know the application involved . . . and we'll send the Data Sheet that applies.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

And . . . for complete spray nozzle information, write for Catalog 24.

For more details circle NED-283 E1 on enclosed inquiry slip

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JIFFY KUSHION KRAFT CELLULOSE WADDING

Clean, attractive economical.
Makes packing so simple.
Complies with Fed. Specs. PPP-C-843.

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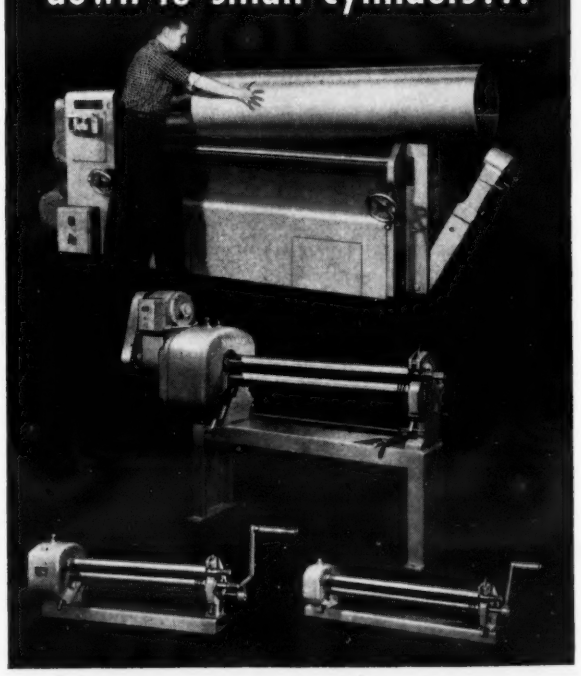
JIFFY MANUFACTURING COMPANY
360 Florence Avenue, Hillside, New Jersey

For more details circle NED-284 E1 on enclosed inquiry slip

From large tank segments down to small cylinders...



Niagara Slip Roll Formers can turn out better work faster, at greater profit

Name the job! In the truly complete Niagara line . . . *most complete of them all* . . . you're sure to find the Slip Roll Former best suited to your sheet rolling needs. Working with lengths up to 120" and thicknesses up to 7/8" mild steel, Niagara Slip Roll Forming Machines are available in an unusually wide range of power and hand operated models for forming light and heavy pipe; stacks; drum, pail, tub and other container bodies.

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Find out how Niagara Slip Roll Formers (diameters 1" thru 10") can turn out better work at greater profits for you. Write for Niagara's new, illustrated Bulletin 77 today. It will be mailed free . . . without obligation.

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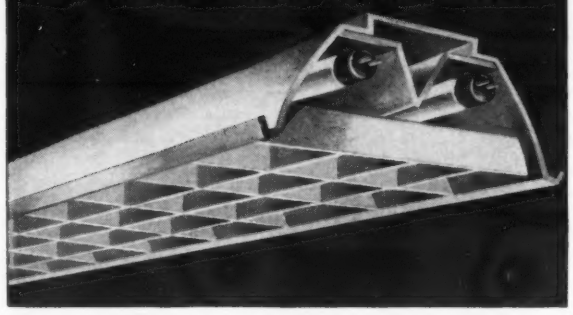
For more details circle NED-285 E1 on enclosed inquiry slip

Use Aluminum for Reflectors That Last!

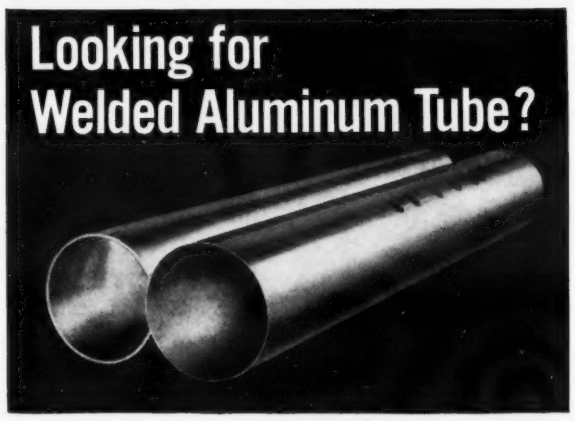


Alcoa® Lighting Sheet with the famous Alzak® finish makes the best reflectors for lighting fixtures. Both diffuse and specular surfaces defy corrosion for lasting reflectivity. Call your nearest Alcoa distributor or Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-286 E1 on enclosed inquiry slip

Looking for Welded Aluminum Tube?



Alcoa's Jobbing Division makes it in a wide range of wall thicknesses, diameters and lengths. High-volume runs or custom-engineered small runs. Latest automatic welding equipment meets aircraft, military and code requirements, assures thin-wall tube to close tolerances. Call your nearest Alcoa sales office for design and engineering help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-287 E1 on enclosed inquiry slip

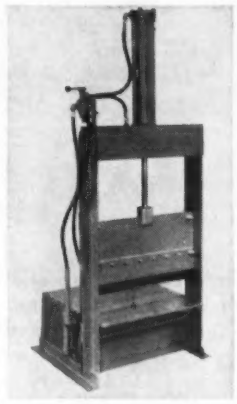
Get Quick Delivery on Standard Storage Tanks

Alcoa's Jobbing Division puts them together quickly from stocked parts . . . cuts delivery time. Sizes from 5,800 to 21,400 gal. Horizontal or vertical. Specials, too. We build pressure vessels to your requirements, give you design and engineering help. Call your nearest Alcoa sales office for details.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-288 E1 on enclosed inquiry slip

HYDRAULIC BALE CUTTER
for crude rubber, other materials



Usable in the Banbury platform, in the laboratory, or in the compounding room, bench model hydraulic crude rubber bale cutter simplifies compounding and processing. It offers a bale clearance of 16 x 8 in., delivers 2½-ton pressure, and can cycle three times per minute. The hardened and ground toolsteel blade is removable for resharpening. The self-contained hydraulic power unit in illustrated floor model delivers 7 tons pressure and has bale clearance of 30 x 22 in. • **G. F. Goodman & Son**, 401 Richmond St., Philadelphia 25, Pa.

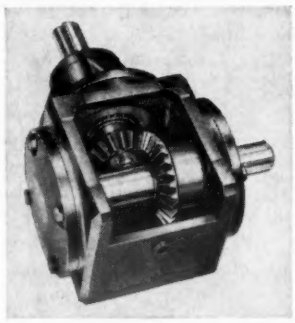
For more details circle NED-289 E1 on enclosed inquiry slip

VARIABLE TRANSFORMERS
metered 0.28 to 4.8-kva units

Smooth control of an electrically isolated alternating current voltage output is provided by Adjust-A-Volt IV Series variable transformers. The three portable metered units for over and under voltage testing are built for 120 v, 50/60 cycle input with 0 to 140-v isolated output. Ratings range from 0.28 to 4.8 kva. Line cord, pilot light, output receptacle, two-range output voltmeter, and thermal circuit breakers are incorporated. Uncased units for OEM or laboratory use are also available. • **Standard Electrical Products Co.**, 2240 E. Third St., Dayton 3, Ohio.

For more details circle NED-290 E1 on enclosed inquiry slip

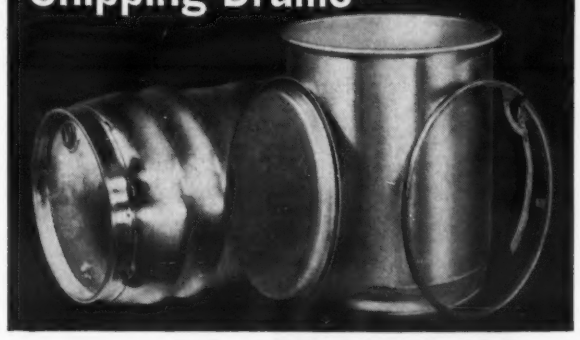
RIGHT-ANGLE GEAR BOX
in 1:1, 1½:1, and 2:1 ratios



Steel-cut gears on ground stressproof steel shafts with Timken roller bearings are features of this line of Model 90 right angle gear boxes. They are easily disassembled for gear lash adjustment. Capacities range to 45 hp, and input can be clockwise or counterclockwise. Drives are available in 1:1, 1½:1, 2:1, and reverse ratios with pinned, keyed, or splined shafts of any length and diameters to 1¼ in. • **Von Ruden Mfg. Co.**, Claremont, Minn.

For more details circle NED-291 E1 on enclosed inquiry slip

Lower Costs With Alcoa Aluminum Shipping Drums

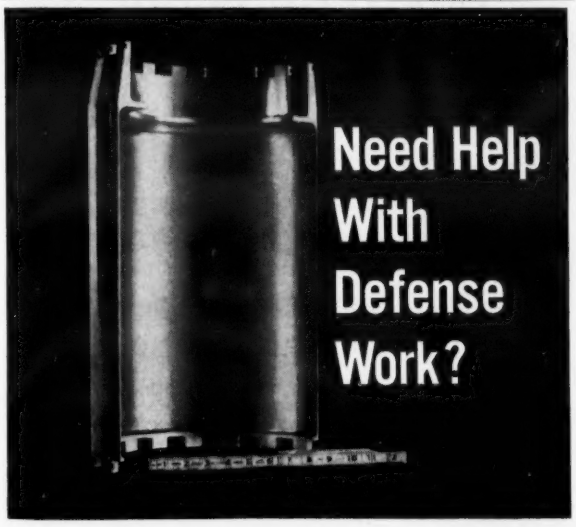


Lightweight, strong Alcoa® Aluminum shipping drums increase payloads, cut dead weight, save on labor and handling. Nonscaling, nonsludging, noncontaminating, chemically neutral to a wide range of liquids and food products. 55-gal general-purpose drum . . . open-top model in 29-, 45- and 55-gal sizes. Call your nearest Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-292 E1 on enclosed inquiry slip

Need Help With Defense Work?



Alcoa's Jobbing Division, with complete aluminum design, engineering and fabricating facilities, can help you meet production schedules. We're experienced in missile parts. Above section for U.S. Air Force missile roll-spun from a preformed part by Alcoa Jobbing Division. Call your nearest Alcoa sales office to get jobbing help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-293 E1 on enclosed inquiry slip

Need Aluminum Design and Fabrication Help? Alcoa's Jobbing Division Can Provide It.

If you need specialized equipment or personnel for any kind of aluminum design and fabrication, call on Alcoa's Jobbing Division. We're fully equipped to do one-of-a-kind "specials," long-run productions, or the *unusual*, including defense work.

The Jobbing Division, utilizing new developments, new processes in aluminum, is ready to help with that unusual job that may be giving you a headache. Save tooling costs and investment in additional equipment. Call your Alcoa sales office and ask about the Jobbing Division's services that can help you right now.

FREE 16-page booklet. Mail coupon for illustrated booklet describing the Alcoa Jobbing Division's fabricating facilities and design assistance that are ready to work for you. They are the world's finest.

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859-E Alcoa Building, Pittsburgh 19, Pa.

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For more details circle NED-294 E1 on enclosed inquiry slip

DRAMATIC PROOF

Turn-Towl's aluminum cabinet wears while others just wear out

Turn-Towl put its own cabinets to the test in the slaughter room of a midwestern meat packing plant. First, the familiar white enamel towel cabinet (like those supplied by most paper towel services) was used a year. Then Turn-Towl's polished aluminum cabinet replaced it — looked just as new 18 months later when it was taken down and photographed.

Other equally dramatic field tests have been made in schools, chemical plants, hospitals. Names are available on request.

For the name of your nearest distributor — who will demonstrate Mosinee Turn-Towl service and arrange for a free trial, if you wish — write Dept. 1084.

MOSINEE Sulphate Towels
BAY WEST PAPER CO.
GREEN BAY • WISCONSIN
Subsidiary of Mosinee Paper Mills Co.

For more details circle NED-295 E1 on enclosed inquiry slip

TURBINE-TYPE MIXER
HANDLES BIG-VOLUME FLUID-MIXING JOBS SAFELY, RAPIDLY

Fluid-mixing problem? Turn it over to us and forget about it. No job is too tough for LIGHTNIN Mixers like this husky turbine-type unit.

Fast, efficient. Drives fluids in powerful, steady flow for complete mixing in shortest possible time. Right size is selected scientifically from hundreds of standard power-speed combinations. **Results guaranteed.**

Low upkeep. Shock loads on mixer shaft can't damage gearing, thanks to exclusive flex-protective coupling between shafts and gears. Parts interchangeable — always in stock at factory. Speeds easily changed.

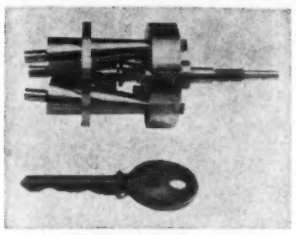
Thousands in use. Models for open or closed tanks, pressure or vacuum mixing. Sizes 1 to 500 hp. **Send for Catalog B-102.**

Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-e Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

For more details circle NED-296 E1 on enclosed inquiry slip

VARIABLE SPEED DRIVE
miniature unit made in three types



Highly accurate, infinitely variable speed transmission is designed for instrument and control applications or light powered equipment up to 1/8 hp. Three types include one that delivers all speeds from any desired maximum to zero, second that delivers speeds from maximum to zero and into full reverse without change of input rotation, and a third unit for speed correction that may be connected to give output speeds varying by ±10 per cent from a given input speed. Entire compound planetary type drive including precision lead screw control is enclosed in a 3¾ x 2½ x 2-in. housing. Transmission serves as an overload clutch as well as a speed variator and torque multiplier. • **Graham Transmissions Inc.,** Menomonee Falls, Wis.

For more details circle NED-297 E1 on enclosed inquiry slip

PORTABLE AIR COMPRESSORS
900, 600, and 125-cfm sizes are rated 100 psi at 1800 rpm

Air entering the intake port of this Rota-Screw portable air compressor is drawn into the space between lobes of two helical rotors. The revolving rotors force the

air into succeedingly smaller interlobal spaces, compressing it in a single stage until full compression is reached. As air is expelled, the next groove comes into line with outlet port to assure smooth air flow without pulsation.

Rotors are driven by timing gears and are oil flooded for good seal and heat removal. Available are 900 and 600-cfm units powered by 6-cylinder Caterpillar diesel engines, and a 125-cfm size powered by a 6-cylinder Continental gasoline engine. All are rated 100 psi at 1800 rpm and are designed to operate in a −40 to 115° F temperature range. Units have a fail-safe electrical system, extra heavy running gear and automotive type steering for towing at reasonable speeds, and heavy-duty truck tires. • **Gardner-Denver Co.,** 1350 Front St., Quincy, Ill.

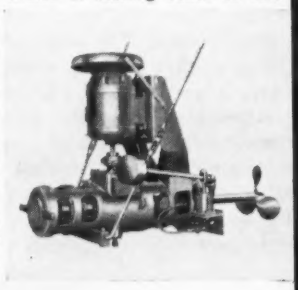
For more details circle NED-298 E1 on enclosed inquiry slip

MIXER FOR BIG TANKS
CREATES UNIFORMITY FROM THE BOTTOM UP

You can use LIGHTNIN Side Entering Mixers in tanks as large as 6 million gallons, on fluids of all viscosities up to about 4,000 centipoises.

The mixer rapidly sets up bottom-to-top turnover plus rotation, to mix or blend tank contents to uniformity more quickly and cheaply than by any other method. Results are **guaranteed.**

Simple maintenance. Wide choice of stuffing boxes to suit every condition, and to permit repacking with tank full. Tank shutoff seal operates by means of easy-to-get-at handles. Alternative cartridge-type rotary mechanical seal eliminates repacking, positively prevents leakage, runs for years without adjustment, and is quickly replaced if it wears out.

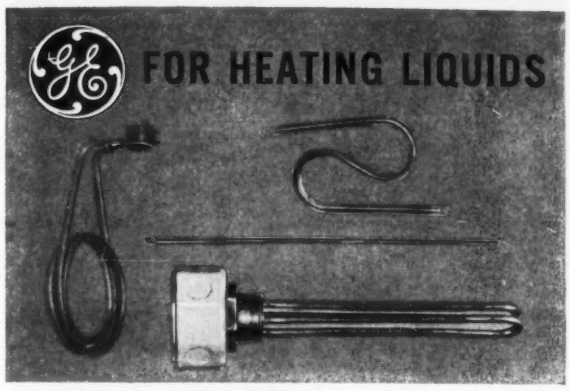


Full selection of motors, materials, mountings. Sizes 1 to 25 hp. For details, send for Catalog B-104.

Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-e Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

For more details circle NED-299 E1 on enclosed inquiry slip



CHOOSE A GENERAL ELECTRIC CALROD® immersion heater when you build heat into your product or process. It's the cleanest, most economical method of heating liquids . . . water, oil, alkaline, or plating solutions . . . in almost any kind of container. You'll get long life, and can easily obtain precisely controlled heat. Models from 650 to 10,000 watts are available from General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables and curves. Write Section 757-04, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle NED-300 E1 on enclosed inquiry slip

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- Automatic character, word and line spacer increases speed and production.
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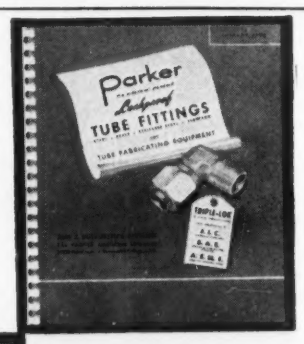
- Exceptionally long life—many Ideals have been in service over 20 years.

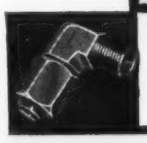
for free trial:

SEE THE YELLOW PAGES } FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

IDEAL STENCIL MACHINE CO.
102 Iowa Ave., Belleville, Illinois

For more details circle NED-301 E1 on enclosed inquiry slip





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All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

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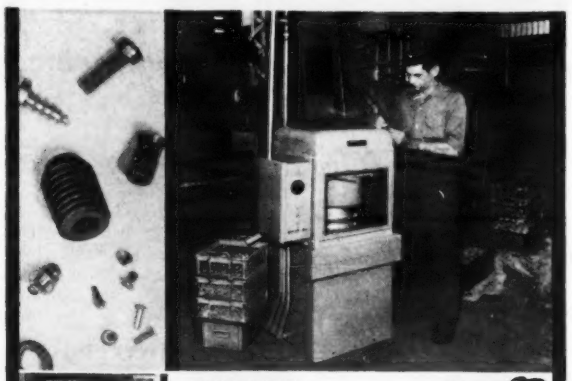
Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-302 E1 on enclosed inquiry slip



Manpro Vibras utilize a unique vibrating spiral elevator to move work rapidly up through non-flammable cleaning solvents and vapors.

NEW VIBRA *Bantam* IN-LINE DEGREASER

This compact yet mighty degreaser (only 20 in. sq.) is priced and engineered to revolutionize production degreasing. Now, equip every small part manufacturing machine in your plant with a new Vibra *Bantam* at surprisingly low cost. Eliminate dripping tote pans. Cut manpower. Parts feed automatically, emerge chipfree, dry—ready for immediate inspection.

Write today for complete data on the New Vibra *Bantam*

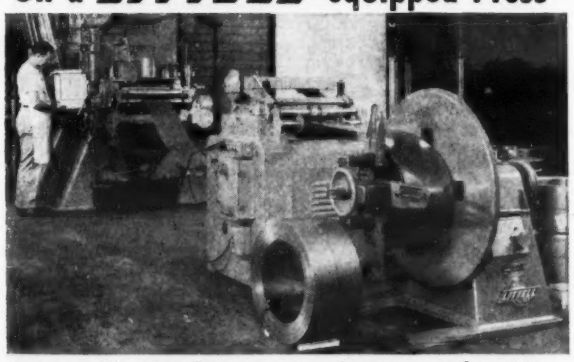
MANPRO CORPORATION
1360 HILTON ROAD, DETROIT 20, MICH.

For more details circle NED-303 E1 on enclosed inquiry slip

Eastman Kodak Verifax Copier

Gets Its Precision Stamped Base

On a *LITTELL*-equipped Press



As it swiftly, clearly copies anything printed, written, typed or drawn, the Verifax Copier rests on a base that is much more than a firm support. The base also secures and protects the heater element, the power cord, the wire assemblies, fuse, and thermostat assembly that are vital to high speed copying. To produce this Heater Base with precision and minimum waste, Eastman stamps it from coil stock that is Littell-handled all the way to the press die. Making up this all-Littell line are a No. 40-18 Reel, No. 418 Straightener and No. 6-18½ Roll Feed.

COILY Says . . .

"The punch press you use can be brought to its peak in accurate, high speed, low cost stamping when a LITTELL line serves it."

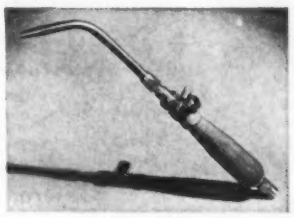
Write for these LITTELL Catalogs

REELS . . . "D" Bulletins
STRAIGHTENERS . . . "C" Bulletins
ROLL FEEDS . . . "A" and "B" Bulletins

F. J. LITTELL MACHINE CO.
4169 N. RAVENSWOOD AVENUE, CHICAGO 13, ILL.

For more details circle NED-304 E1 on enclosed inquiry slip

ACETYLENE TORCH has built-in pilot flame



Built-in pilot flame on redesigned Asco acetylene torches makes it unnecessary to turn down the working flame or shut off the torch when laying it aside temporarily. It also eliminates relighting after each interruption. The only moving parts are the main on-off knob which also regulates pilot flame, and a thumb button for controlling the size and intensity of the working flame. Torches are furnished with either wooden or brass handles. Interchangeable tips and accessories for either acetylene or propane are available for soldering, light brazing, heating, and bending work. • Acetylene Supply Co., Woodbridge, N. J.

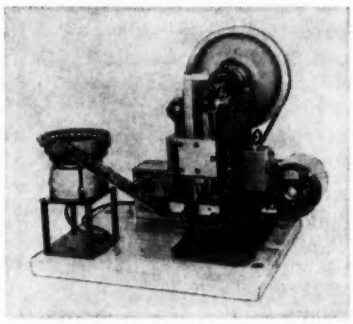
For more details circle NED-305 E1 on enclosed inquiry slip

BENCH & TABLE LIGHT is adjustable fluorescent unit

Counterbalanced and easy to adjust, this fluorescent bench and table fixture stays put due to self-adjusting tension springs in the joints. The sturdy Ultraflex arms pivot 360 degrees on the base which contains the ballast. The arms extend 40 in. Fixture is supplied with mounting for table surface and clamps for bench or drawing board. Standard colors are black, gray, statuary bronze, and green. • O. C. White Co., 17 Hermon St., Worcester 8, Mass.

For more details circle NED-306 E1 on enclosed inquiry slip

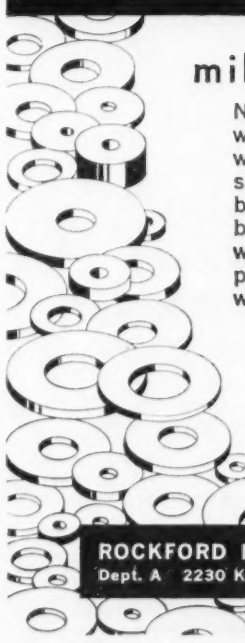
TERMINAL RIVETING MACHINE sets over 2000 terminals per hour



Supplied with a ⅓-hp 110-v ac motor, ready - to - operate Model 900 turret terminal riveting machine inserts and sets all makes of electronic terminals and base pins in printed circuit boards at a rate of 2000 per hour. Machine is operated by an electric foot switch and employs a vibratory hopper for continuous flow of terminals to riveting jaws. Hopper and track handle terminals of varying lengths with no change in tooling needed. • Eyelet Tool Co., 31 Carleton St., Cambridge 42, Mass.

For more details circle NED-307 E1 on enclosed inquiry slip

NYLON WASHERS



millions of 'em!

No matter what your needs are, we can supply the proper NYLON washer—perhaps right out of our stock! We're leaders in this business. Replace old fashioned, brass, stainless steel and plated washers with light, bright, rust-proof, long wearing NYLON washers today.

if you use

50,000 or more washers of a kind yearly, you will find our prices most attractive. Send OD, ID and thickness and quantity and we will quote. Write today!

ROCKFORD MOLDED PRODUCTS, INC.
Dept. A 2230 Kishwaukee Street Rockford, Illinois

For more details circle NED-308 E1 on enclosed inquiry slip

in SAFETY and RELIABILITY with new Square D Combination Starter

EXTRA SAFETY!
Operating handle permanently attached to switch. Visible Blades on switch for safety you can *see*. Double protection against opening door with handle "ON."

REAL RELIABILITY!
NEMA 5-12 construction keeps out dust and coolant. No linkages to go wrong. Door closes snugly every time. Rugged construction throughout for extra-long life.

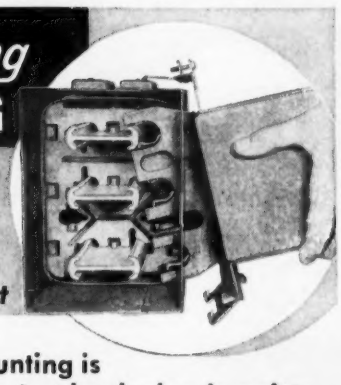
Write for details. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-309 E1 on enclosed inquiry slip

hook-swing MOUNTING

–Another reason for using Square D Aluminum Plug-in Duct



Hook-swing mounting is easier and safer. Just hook plug-in unit to top of duct, then swing down into position

Hanger mounts in any position for easier installation.

I-beam construction of bus bars is four times stronger than other types.

Full-width bus support gives extra strength, and less vibration.

Totally enclosed construction prevents accidental shorts.

Insulator on plug-in jaws guides units into position, protects jaws from damage.

Steel pins in each bus bar prevent shifting, provide vertical support.

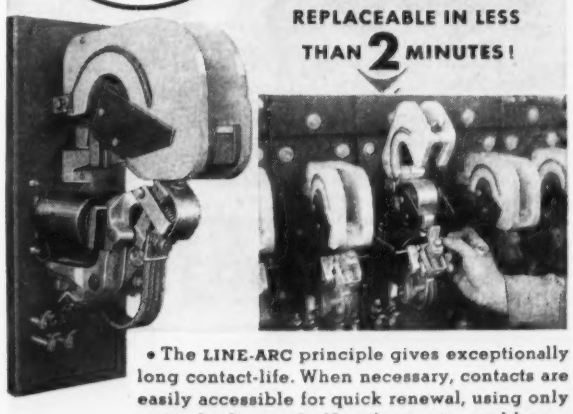
Write for Bulletin SD-110 • Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-310 E1 on enclosed inquiry slip

for EASIER Maintenance — EC&M LINE-ARC® CONTACTORS

FRONT AND REAR CONTACTS REPLACEABLE IN LESS THAN 2 MINUTES!

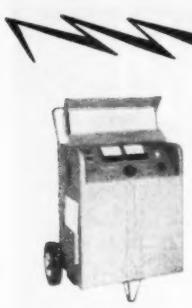


• The LINE-ARC principle gives exceptionally long contact-life. When necessary, contacts are easily accessible for quick renewal, using only a standard wrench. No other parts need be removed first. *Write* for Bulletin 7004

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO
wherever electricity is distributed and controlled

For more details circle NED-311 E1 on enclosed inquiry slip

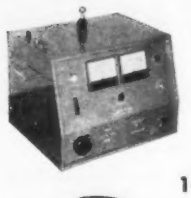
Headquarters for HIGH POTENTIAL Testing



Every over-potential testing need from the super-power generator to the appliance motor . . . is met by a HYPOT®.

150 KV Testing . . Mobile HYPOT®

Non-destructive testing of power cables, generators, bushings and insulators with AC and DC test potentials from 45 to 150 KV. Newly developed DC Mobile HYPOT® offer test facilities equivalent to AC testers of greater bulk . . . and are easier to handle, cost less. Write for bulletin "Mobile HYPOT®", outlining your requirements.



30 KV Testing . . Bench HYPOT®

Widely employed for insulation testing of cables, power distribution equipment and heavy duty motors. Models available with AC and with DC test potentials from 5 to 30 KV. Write outlining your needs.

10 KV Testing . . Portable HYPOT Jr.®

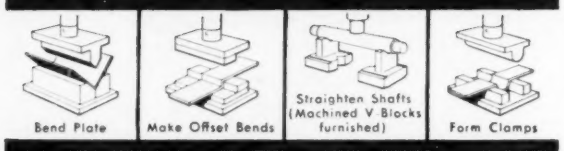
An advanced over-potential tester that enables anyone to make high potential breakdown tests. Separate lights indicate excess leakage current and insulation break down. Test voltage collapses on breakdown or shorts, protecting instrument and equipment. Models available with test voltage ranges from 1500 v a-c, to 10,000 v a-c. Write for bulletin "HYPOT Jr.®"

Write Today 10-35.9b

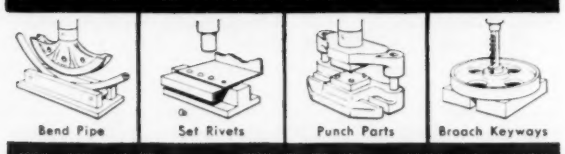
ASSOCIATED RESEARCH, Incorporated
"Electrical Testing Instruments Since 1936"
3765 W. Belmont Avenue • Chicago 18 Illinois

▲ For more details circle NED-313 E1 on enclosed inquiry slip ▲

KRW SHOP PRESSES



DO ALL THESE JOBS AND HUNDREDS MORE

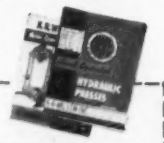


A "DO-EVERYTHING" MACHINE: This KRW 25-ton Hand-Operated Hydraulic Press will do a multitude of jobs that need a "squeeze" . . . *quickly, accurately and profitably.* In many cases, dies can be readily improvised from scrap steel. Changing from one setup to another usually takes only a minute or two.

EASY TO OPERATE. The capstan hand wheel brings the ram rapidly down to the work. With the pump handle positioned at a convenient working height, it's easy to keep an eye on the pressure gage as well as the work.

PRESS WITHIN A PRESS. By using the capstan hand wheel to apply ram pressure, you also can operate this 25-ton hydraulic press as a 3-ton mechanical press. *It's a KRW exclusive!*

MAIL THIS COUPON for complete details on KRW Hand-Operated and Motor-Driven Shop Presses (Capacities: 25 thru 150 tons).

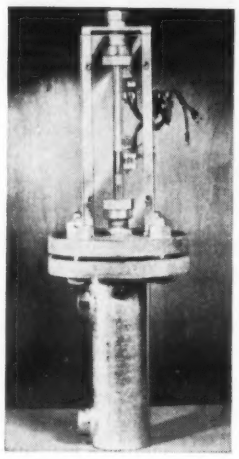


K. R. WILSON, INC.
1228 MAIN ST., ARCADE, N. Y.
SEND your Hand-Operated and Motor-Driven Shop Press Bulletins to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle NED-314 E1 on enclosed inquiry slip ▲

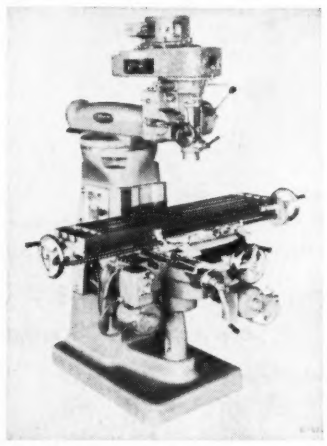
LIQUID LEVEL GAGE designed for refrigerant vessels



Visual indication of liquid level provided by the Gage-O-Matic indicating gage informs personnel of the status and behavior of liquid in refrigerant vessels. It can be made to order with single or multiple control switches to provide automatic operation of pumps, valves, indicator lights, alarm bells, compressor shut-down, and protective signal circuits. Gage has five major parts: Float chamber, guard section, control switch or switches, indicator glass, and combination float ball, rod, and magnet-indicator. Float chamber is connected by the bottom and top equalizer to suction trap, low pressure receiver, accumulator, chiller, or other vessel. • **H. H. McKinnies Co.,** 3131 W. Mill Rd., Milwaukee, Wis.

▲ For more details circle NED-315 E1 on enclosed inquiry slip ▲

VERTICAL MILLING MACHINE head tilts and rotates on ram for quick setup of any compound angle

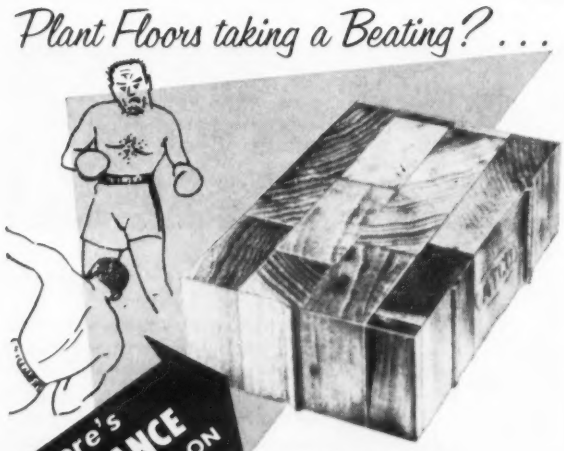


Nine spindle speeds are provided by the standard 1-hp motor of the Model 645 ram and turret vertical milling machine. It also has three spindle feeds with adjustable depth and power feed up and down. Head tilts 45 degrees forward and back and rotates 360 degrees on the ram. The turret rotates 360 degrees on the column, and the power assembly rotates completely around the spindle. These features, plus 18-in. knee travel and 25½-in. overarm travel simplify setup and provide quick setup of any compound work angle.

Spindle-to-table distance is 0 to 19½ in., cross travel is 10 in. (12 in. optional), and longitudinal travel is 26 in. on the 9 x 40-in. table or 32 in. on the 9 x 46-in. table. Vertical spindle travel is 5 in. Distance range of 1½ to 27¼ in. from spindle center line to column ways is provided with the spindle in a vertical position. Longitudinal power feed with eight speed changes, chrome plated ways, and coolant system are among options. • **Index Machine Co.,** 539 N. Mechanic St., Jackson, Mich.

▲ For more details circle NED-316 E1 on enclosed inquiry slip ▲

Plant Floors taking a Beating? . . .



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Hickory AISLE BLOCKS

Precision-made for heavy industry installations. In use for more than five years without a single replacement!

Expansion ribs prevent buckling. Standard, easy-to-install 4"x6" blocks—laminated under hydraulic pressure. Thickness from 1½" to 3" or made to your own specifications. Write for particulars and the names of larger plant users.

Quality Wood Products . . . Since 1889

ANDERSON-TULLY CO.
1242 NORTH SECOND ST. • MEMPHIS, TENNESSEE

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For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

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Production UP

Inspection Errors DOWN

—when inspectors "SEE BETTER"® with MAGNI-FOCUSER 3-D BINOCULAR MAGNIFIERS

At PRATT & WHITNEY, a MAGNI-FOCUSER insures accurate inspection of a precision part.

It takes more than just the human eye to accurately detect defects in a mass-produced product. That's why hundreds of plants manufacturing products ranging from jet planes to microscopic electronic parts insist that their inspectors wear **MAGNI-FOCUSERS.**

MAGNI-FOCUSER, the 3-D binocular magnifier with matched precision ground optical glass lenses, helps eliminate costly errors by providing needle-sharp, distortion-free magnification in the third dimension.

MAGNI-FOCUSER reduces eye-strain, leaves both hands free to work. May be worn with or without regular eyeglasses. Normal vision resumed by raising head slightly. Weighs only 3 ounces.

Get greater accuracy in your operation — send for **MAGNI-FOCUSER** on a 10-day trial without obligation! Immediate delivery. Three models — 1¾ magnification at 14", 2¼ at 10", 2¾ at 8". Only $10.50. Illustrated literature on request.

EDROY PRODUCTS CO.
Dept. B, 480 Lexington Ave.
New York 17, N. Y.

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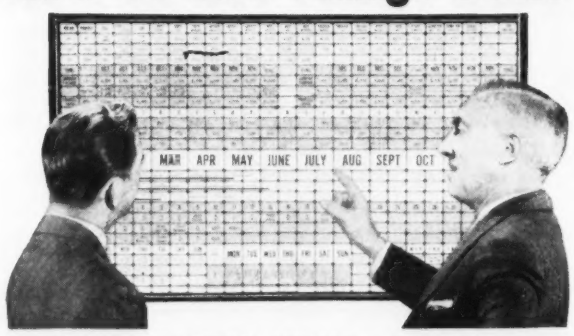
How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spot-lighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Full price $49.50 with cards

FREE 24-Page Illustrated Booklet N-500 Mailed Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

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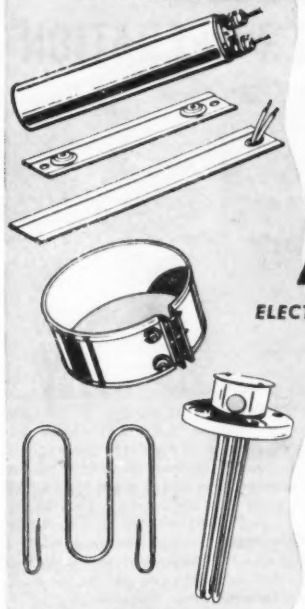
for FASTER HEAT TRANSMISSION



• LESS LAG
• LOW COST
• LIGHT WEIGHT

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Most efficient, most economical, for applications in 100° to 1200° F range. Made to highest test standards, uniformly dependable, conform to known U. L. requirements. All types, all sizes, made to order. Engineering service, quotations, on request.

SEND SKETCH, BLUE PRINT OR SAMPLE PART

Send for informative HEAT DATA HANDBOOK "E"

ORDER DIRECT FROM
ACRA ELECTRIC CORPORATION
9907 Pacific Ave. • Franklin Park, Ill.

For more details circle NED-321 E1 on enclosed inquiry slip

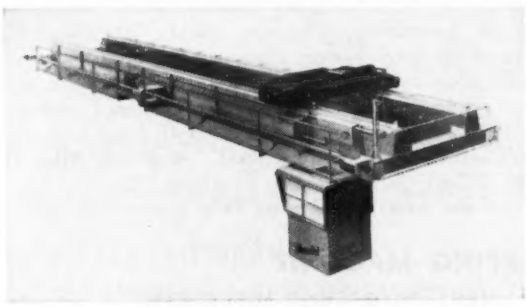
PARTS CLEANING MACHINE
20-gal unit holds 45 lbs of parts

Small parts in batch loads weighing up to 45 lb are cleaned with minimum operator attention in this 20-gal capacity Mini Dip parts cleaner. Unit consists of the 20-gal openhead drum, a basket that fits inside the drum, and a compressed-air-operated, automatically agitated Mini Dip unit that fits over the top of the drum. It combines the chemical cleaning action of a solution with dirt-shearing up-and-down mechanical agitation. Carbonized oil, sludge, dirt, and metal chips are pressure-flushed away, even from recesses and pockets. Unit is offered with a 15-gal solution charge. • **Magnus Chemical Co.**, Dept. M-69-27, South Avenue, Garwood, N. J.

For more details circle NED-324 E1 on enclosed inquiry slip

OVERHEAD TRAVELING CRANES
capacities from 3 to 25 tons with choice of lifts, speeds, currents

Assembled from standardized interchangeable parts, the Series D line of overhead electric traveling cranes is available for spans up to 80 ft with floor or cab

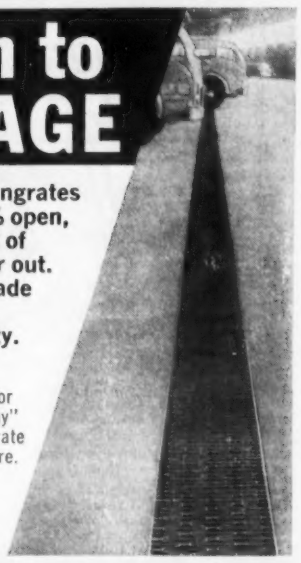


operation. Design permits close approach of the load hook to building walls. The bridge features box section girders, double-flanged forged steel wheels with hardened treads and flanges, tapered wheel treads to resist skewing, and rubber bumpers at end trucks.

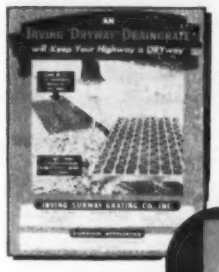
Self-contained drive unit consisting of speed reducer, flange mounted motor, and shoe type brake is located at the center of the bridge span. All gearing operates in an oil bath. Low silhouette trolley has a steel frame welded into a single unit with integrated hoisting machinery. Either of two brakes will safely hold capacity loads. Control equipment is housed in NEMA standard enclosures. Cranes are offered in capacities from 3 to 25 tons with a choice of lifts, speeds, and electrical currents. • **Manning, Maxwell & Moore, Inc.**, Shaw-Box Crane & Hoist Div., Muskegon, Mich.

For more details circle NED-325 E1 on enclosed inquiry slip

Solution to DRAINAGE



IRVICO "Dryway" Draingrates are approximately 80% open, reducing the likelihood of flooding areas inside or out. In addition, they are made of steel bars on edge, affording high durability.



Write for "Dryway" Draingrate Brochure.

"A FITTING GRATING FOR EVERY PURPOSE"

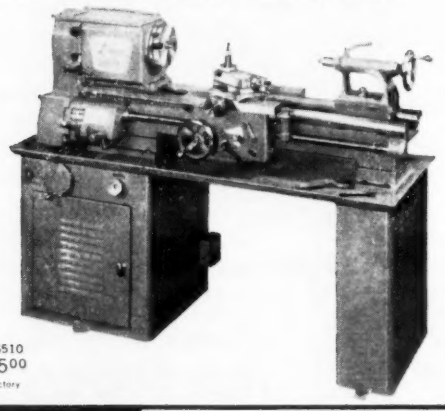
Manufacturers of Riveted, Pressure-Locked, Welded Gratings of Steel, Aluminum and other metals.

IRVICO®
IRVING SUBWAY GRATING CO., Inc.
Originators of the Grating Industry
Offices and Plants at
5072 27th St., LONG ISLAND CITY 1, N. Y.
1872 10th St., OAKLAND 23, CALIFORNIA

For more details circle NED-327 E1 on enclosed inquiry slip

NEW! Logan 14" LATHES BEST DOLLAR VALUE IN THE LATHE FIELD

DEPENDABLE . . . ACCURATE . . . RUGGED . . . Large lathe capacity features a 14⅝" swing over bed, a 9" swing over saddle cross slide, and a 28" center distance. Ball bearing spindle has: 1⅜" hole, 1 1/16" draw in collet capacity, and variable speed drive (40 to 1400 RPM)—no shifting belts! There are two precision ground V-ways and flat ways.



Model 6510
$1,775.00
F.O.B. Factory

Logan
LOGAN ENGINEERING CO., DEPT. D-561
4901 W. Lawrence Ave., Chicago 30, Ill.

For more details circle NED-322 E1 on enclosed inquiry slip

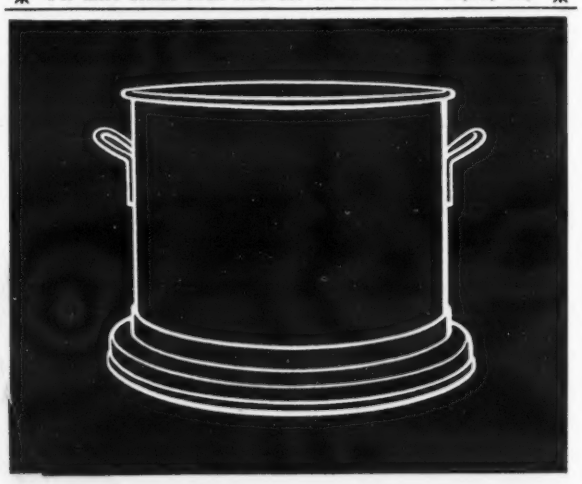
DIAL THIS PUMP FOR THICK OR THIN

Vari-Flo changes capacity instantly

If you're moving a variety of liquids—or one liquid at changing temperatures—there's no need to use several pumps. One Blackmer Vari-Flo can solve your problem, save you time and money. With Vari-Flo, you just dial a low capacity for thick liquids, then gradually increase the rate as the liquid gets thinner. Even reverse the flow without changing pump speed or direction! Vari-Flo does all this with an ordinary, standard-speed motor. See how it works to solve your pumping problems. Write for Bulletin 600.

"liquid materials handling" equipment
BLACKMER / vari-flo pumps
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

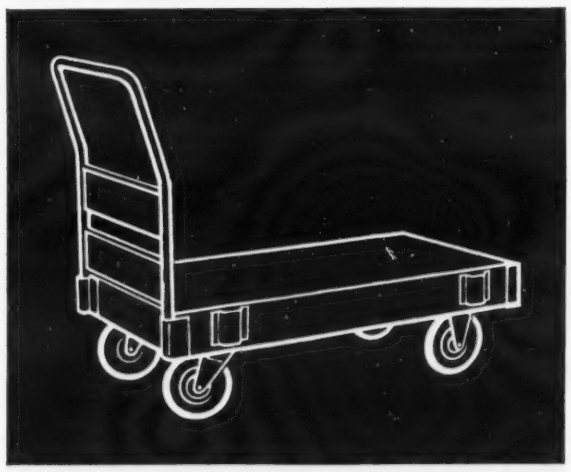
For more details circle NED-328 E1 on enclosed inquiry slip



Let wear·ever store it

These Wear-Ever containers stack to save space. Or, covers are available. Extra-tough aluminum alloy won't rust, resists denting. Beaded rims protect workers' hands. Choose from Wear-Ever's wide selection of sizes: 2½-, 4-, 6-, 9- and 14-gallon capacity. Count on lightweight Wear-Ever aluminum containers to stand up to a long life of hard use—save yourself replacement costs. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery from stock. A-5440-2

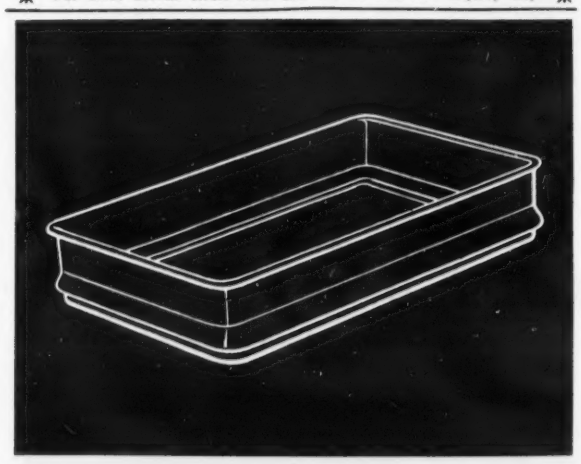
For more details circle NED-323 E1 on enclosed inquiry slip



Let wear·ever move it

Even the women in your plant can handle lightweight Wear-Ever aluminum trucks. This newest addition goes like lightning, yet stands up to long, hard use. One-eighth-inch thick, heavy-duty aluminum base. Eight-inch diameter rubber-tired casters roll smoothly over uneven floors. Special panels (two sides, one end) turn 47" x 23" flat bed truck into a panel truck. Send reply card for full details on this and other Wear-Ever trucks; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery. A-5440-3

For more details circle NED-326 E1 on enclosed inquiry slip



Let wear·ever keep it handy

Small parts can be expensive. That's why Wear-Ever's rectangular pans and transport boxes are all drawn seamless from one sheet of extra-tough, dent-resistant aluminum alloy. No seams to catch tiny parts or dirt. Easy-to-clean rounded corners, sanitary open bead. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Count on immediate shipment from stock. A-5440-4

For more details circle NED-329 E1 on enclosed inquiry slip

Tougher... Lighter... Smaller

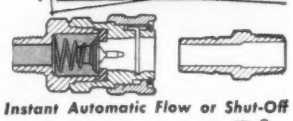
handles more air with minimum pressure drop

Has fewer parts. Locking ring provides positive lock... tight fit... minimum wear. Equipped with automatic sleeve lock.

Handles any job in your shop using ¼" to 1/8" connections—from the air line to the air tool—eliminates any need for various size couplings in hook-up—makes it easy to keep stock of parts in balance—holds inventories to a minimum.

All Series 2-RL Sockets and Plugs are completely interchangeable—likewise all larger Series 3-RL Sockets and Plugs.

HANSEN SERIES RL QUICK-CONNECTIVE RING LOCK COUPLING



Instant Automatic Flow or Shut-Off

Write for Catalog — a ready reference when you want information on couplings in a hurry.

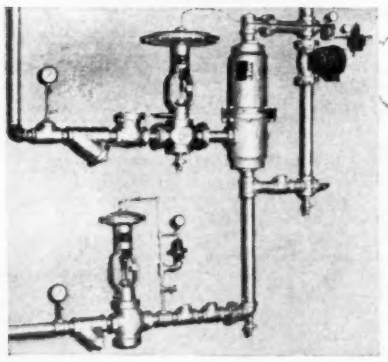
Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-330 E1 on enclosed inquiry slip

HOT WATER INSTANTLY

Accurate Temperatures . . . Low Cost . . . Any Quantity from 500 to 50,000 Gallons Per Hour!



Pick STEAM INJECTION

WATER HEATERS for high or low pressure steam

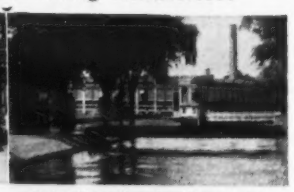
Direct contact of steam and water in the Pick patented mixing chamber produces hot water at the desired temperature, and in the required quantity, *instantly!* There's no time lag . . . no steam wasted to maintain heat in stored water . . . steam used only as hot water is drawn. Water temperature maintained within 3° plus or minus. Volume adjustable from 5% to full rated capacity. Pick heaters require no floor space . . . usually installed on wall. Whatever your hot water needs are, Pick will do it faster, more accurately and at lower cost!

FREE CATALOG — Contains complete information and specifications. Write today to Dept. P.

Pick WATER HEATERS — PICK Manufacturing Co. Water Heater Division WEST BEND, WISCONSIN

Used by America's Leading Industries:

U. S. Steel, Gary, Indiana Continuous annealing line



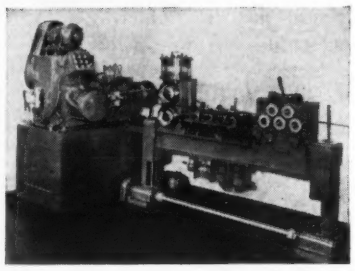
Bates Mfg. Co., Lewiston, Maine Finishing Process of Bedspreads

General Aniline & Film Corp. Linden, New Jersey Filter press washing

Gerber Products Co. Fremont, Michigan Sterilizing, washing & processing

For more details circle NED-331 E1 on enclosed inquiry slip

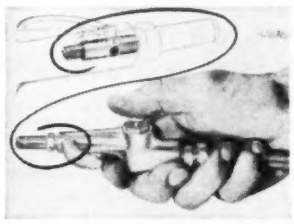
HIGH SPEED BAR SHEAR cuts 100 pieces per minute



Various models of the Steelmaster high speed precision bar shear have diameter capacities up to 2½ in. and handle all free-machining materials, including 100,000-psi high tensile steel. Bar stock slugs produced automatically at a rate of up to 100 pieces per minute have clean square ends, no distortion, and a minimum of internal stress. Length tolerance within ±0.001 in. is maintained. Rate of feed is 4 fpm and blank size is infinitely variable. Straighteners for coil stock feeding are optional. • **Pathex Inc.**, 1006 Prudential Bldg., Buffalo 2, N. Y.

For more details circle NED-332 E1 on enclosed inquiry slip

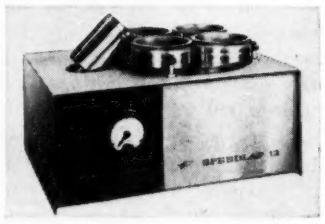
INDUSTRIAL BLOW GUN with controlled air delivery



Air delivery ranging from a gentle blow to a strong blast is pushbutton controlled on the diecast Foster industrial blow gun. Shavings, dirt, lubricants, and the finest particles are blown from tools, parts, and small, delicate assemblies with the Handy-Air gun which features its own hanging hook. Optional screw-type needle-nose valve shown in inset regulates the maximum volume of air which can be delivered and saves air with a stop to over-metering. Both body and nozzle are leakproof and rust-resistant. • **Foster Mfg. Co.**, Dept. IG-44, 2850 Gravois, St. Louis, Mo.

For more details circle NED-333 E1 on enclosed inquiry slip

LAPPING MACHINE uses reversible lap plate



Abrasive compound is applied automatically by the Speedlap 12, a 12-in. lapping machine constructed of stainless steel. Both size and type of abrasive are rapidly changed. Machine has a Speedalloy reversible lap plate which is serrated on one side and solid on the other. Four 4½-in. ID rings eliminate much pregrinding and provide a large lapping area. Flatness to 0.000003 in. and better, surface finish of 2 rms and better, and parallelism of 0.00005 in. are produced. • **Speedlap Corp.**, Dept. 90, 3636 W. Oakton St., Skokie, Ill.

For more details circle NED-334 E1 on enclosed inquiry slip

SAVE UP TO 25% ON ELEVATOR COSTS

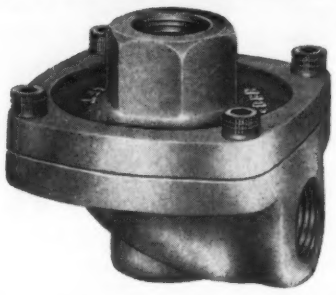
Using dependable hydraulic power, Rotary Oildraulic Elevators operate with maximum efficiency. Power is applied directly to the load . . . no lost motion or wasted energy. The elevator car is supported by a powerful hydraulic jack, eliminating the need for heavy load-bearing shaftway and overhead machinery. Capacities to 100,000 lbs. Installed and serviced by a nationwide organization. Write for catalogs.

ROTARY OILDRAULIC® ELEVATORS

Rotary — Rotary Lift Company *Division of Dover Corporation* 1024 KENTUCKY • MEMPHIS 2, TENN.

For more details circle NED-335 E1 on enclosed inquiry slip

USE QUICK EXHAUST VALVES TO BOOST AIR CYLINDER OPERATION



Where maximum piston speed is desired, these Quick Exhaust Valves are extremely efficient. Use them on single- or double-acting cylinders for faster operation in both directions. Installed on cylinder ports, they provide immediate passage to the atmosphere for any back pressure tending to hinder piston motion. This "dumping" eliminates the usual slow-up caused by the air travelling back through the operating valve to exhaust. Available in ⅜" and ¾" N.P. Thd. sizes . . . teflon diaphragm in ⅜" size for use where excessive heat is encountered.

For full information on Schrader Quick Exhaust Valves, as well as on hundreds of other air products that will help you get the most out of your air power, write for free informational literature.

Schrader® — A. SCHRADER'S SON *Division of Scovill Manufacturing Company, Inc.* 459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-336 E1 on enclosed inquiry slip

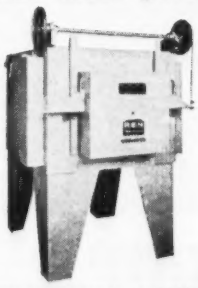
EXTRA VALUE* FASTENERS

DIAMOND EXPANSION BOLT CO., INC. 502 North Avenue, Garwood, N. J.

For more details circle NED-337 E1 on enclosed inquiry slip

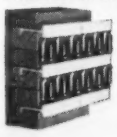
SOLVE HEAT-TREATMENT PROBLEMS for Glass, Steel, Aluminum, Ceramics, Chemical Processing

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Controlled, Uniform Clean Heat to 2300°F.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

THE HEATING ELEMENT MAKES THE DIFFERENCE!



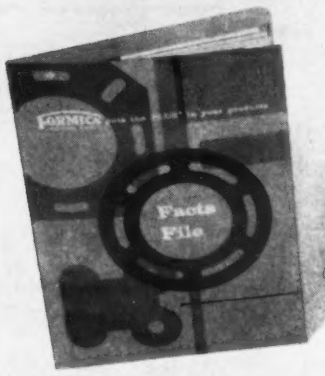
Surface of continuous "Folded and Formed" ribbon type element faces the work chamber—gives up to *4 times the radiating area* per given cross section of ordinary types! Let TRENT engineers study your needs to determine the efficient and economical solution to your heating problems.

Write for Bulletin 75-TD

TREN INC. Electrically Heated Industrial Equipment — 251 Leverington Ave., Philadelphia 27, Pa. In Canada Pioneer Electric Eastern Ltd., Toronto

For more details circle NED-338 E1 on enclosed inquiry slip

SAVE MORE
with molded parts that
DO MORE



FREE FACTS FILE SHOWS YOU HOW

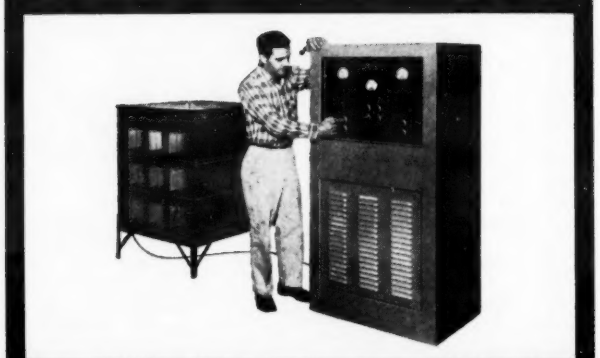
FORMICA Industrial Plastics

High strength Formica thermosetting molded plastic parts ***do more*** by combining several properties and functions. You ***save more*** on sub-assembly, materials, machining and replacement. Facts File contains further information...write for your free copy now! Formica Corporation, 4551 Spring Grove Ave., Cincinnati 32, Ohio.

subsidiary of Cyanamid CYANAMID

For more details circle NED-339 E1 on enclosed inquiry slip

CLEANING PROBLEM?
SONOGEN® Ultrasonic Cleaners
by BRANSON may be your answer!



Experienced counsel in planning, installation, and maintenance of ultrasonic cleaning systems. Wide range of standard, use-proven units combine into efficient cleaning systems with any needed features and capacity from benchtop size to the largest engineered batch or conveyorized installation. Assured nationwide service by factory-trained specialists. Tell us your problem.

BRANSON ULTRASONIC CORPORATION
56 Brown House Road • Stamford • Connecticut

For more details circle NED-340 E1 on enclosed inquiry slip

2 New RIGID® CHAIN WRENCHES

No. C-14 for up to 2" Pipe and Fittings.
No. C-18 for up to 2½" Pipe and Fittings.

...Give Real Action-Grip on Round, Square or Irregular Shapes

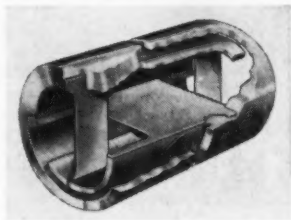
Fast, ratchet-like action in either direction . . . from either side . . . in close quarters. Give tight grip without crushing. Large, easy-to-grab end ring for fast chain adjustment. Tempered steel chain locks securely . . . releases quickly. Rugged, comfort-grip, I-beam handle, guaranteed not to break or warp . . . handy hang-up hole.

Light and easy to use, these new RIGID Chain Wrenches do everything a regular wrench can do . . . and much more.

Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-341 E1 on enclosed inquiry slip

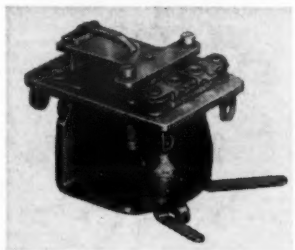
NONFRICTION BEARING
replaces ball bearings and jewels



Designed to take the place of ball bearings and jewels in many applications in industrial and aero-space fields, Flexural Pivots are virtually frictionless. Actually a redesigned cross-spring pivot, it is precision made. Flat steel springs form a sort of web between two separated halves of a tubular bearing, and it is their flexing that allows movement up to a 60-degree arc without rubbing parts. Seven units are offered with diameters from 5/32 to ¾ in. • **Bendix Corp.**, Utica Div., 211 Seward Ave., Utica, N. Y.

For more details circle NED-342 E1 on enclosed inquiry slip

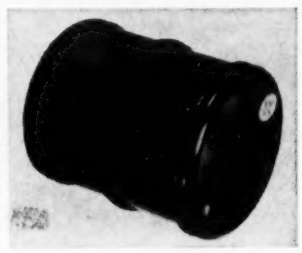
MINIATURE DC RELAY
rated 1 amp at 26.5 v dc, 115 v ac



Less than ½ cu in. of space is occupied by unenclosed MK Series miniature direct - current relay available in single-pole double - throw and double-pole double-throw contact arrangements. Contacts are rated 1 amp resistive, 0.6 amp inductive at 26.5 v dc or 115 v ac. Relay is available in one of three dust-tight enclosures with octal plug and solder hook terminals. It has a −55 to 85° C temperature range and withstands up to 10-g, 10 to 55-cps vibration at 0.06-in. excursion. • **Elgin National Watch Co.**, Electronics Div., 2435 N. Naomi St., Burbank, Calif.

For more details circle NED-343 E1 on enclosed inquiry slip

PLASTIC CARBOY-DRUM
ships chemicals without overpack

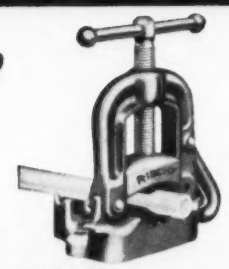


I.C.C. authorization to ship regulated chemicals without overpack has been given this 15-gal plastic carboy which is shaped like a drum for easy rolling and stacking. Made from a copolymer of polyethylene, the carboy is injection molded in two parts, then welded together. It is safe under most adverse conditions, has high impact strength at low temperatures, and is reinforced at center and ends. Unit measures 20½ in. long and 17¼ in. in diameter and is designed for use with a standard polyethylene chemical pump. Black color prevents ultraviolet degradation of contents. • **Plastineers, Inc.**, 2127 E. Lake St., Minneapolis 7, Minn.

For more details circle NED-344 E1 on enclosed inquiry slip

Speed Your Pipe Work With RIGID® PIPE VISES

NEW RIGID BENCH CHAIN VISES
with Large, Easy-to-Operate Top Screw Handle. Handy pipe benders. 5 Sizes for ⅛" to 8" Pipe, Conduit, Rod.



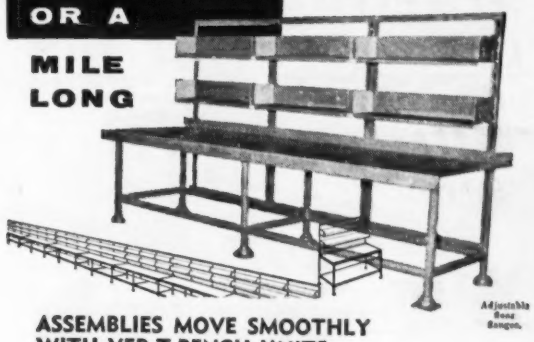
RIGID BENCH YOKE VISES
Known Everywhere as Extra-Handy and Rugged. 8 Sizes for ⅛" to 6" Pipe, Conduit, Rod.

Replaceable heat-treated tool-steel jaws give slip-proof grip . . . Rear rest keeps pipe straight for easy cutting, threading, reaming. Rugged malleable iron base. Stand Models also available.

Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-345 E1 on enclosed inquiry slip

THREE FEET OR A MILE LONG — The Ver-T-Bench



ASSEMBLIES MOVE SMOOTHLY WITH VER-T-BENCH UNITS

A truly DeLuxe assembly unit.

Many Advantages of Ver-T-Bench Units

More working area and assembly space
More storage space for finished work

Saves Man Hours · Saves Floor Space

No more clogged aisles No more littered tables
Write today for Descriptive Literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13 OHIO

For more details circle NED-346 E1 on enclosed inquiry slip

PRODUCTION MODEL VIBRATORY FINISHING MACHINE

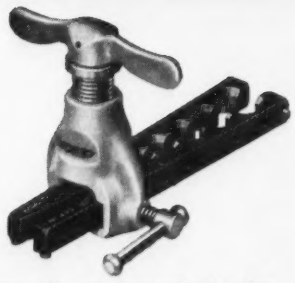
New Model HD-1016 LORCO® Vibratory Finishing Machine is designed for maximum economy in mass production of precision finished parts. Bowl is manually tilted for rinsing and unloading **while vibrator is in operation**, permitting exceptionally fast rinsing and finishing cycles. Priced at approximately 1/3 cost of similar capacity vibratory equipment. Prompt delivery. Write for details.

LORD CHEMICAL & EQUIPMENT DIV.
of Wheelabrator Corp.
2068-G South Queen St. York, Pa.

For more details circle NED-347 E1 on enclosed inquiry slip

Brand New . . . and the Best Yet!
RIGID® FLARING TOOLS

One integral unit ...parts can't be lost or separated.



Here's the easy way to get fast, perfect flares every time. Clamp screw locks bars, yoke and tubing in perfect alignment. Large, comfort-grip feed screw handle turns easily. Precision-ground flaring cone, eccentrically mounted, produces rolling action for even metal flow . . . uniform walls. Tubing hole sizes are clearly marked for fast size selection.

3 MODELS
RIGID No. 457 for 45° flares, ⅛" to ⅝" O.D. (7 sizes)
RIGID No. 459 for 45° flares, ⅛" to ¾" O.D. (9 sizes)
RIGID No. 376 for 37° flares, 3/16" to ⅝" O.D. (6 sizes)

Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-348 E1 on enclosed inquiry slip

Starting? LOADLESS WITH Quincy

A Quincy Compressor gets away to a smooth start each time because of patented Loadless Starting. This feature keeps the compressor unloaded until full operating speed is reached. The same exclusive system also provides free-rolling Loadless Stops.

Other features include Safe-Q-Lube pressure lubrication, light-weight automotive type pistons, cushioned steel valves and perfectly balanced crankshaft. Authorized service available across the country — around the clock.

Models from 1 to 90 CFM. *Write for catalog.*

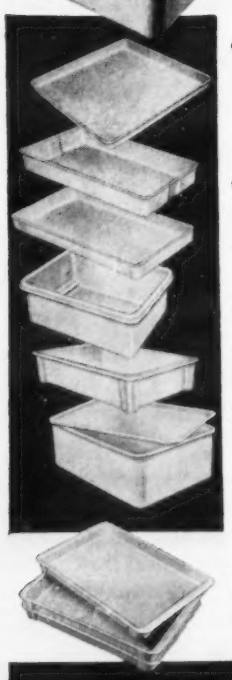
QUINCY COMPRESSOR CO., Dept. N-561. Quincy, Ill.
Makers of the World's Finest Air Compressors

For more details circle NED-349 E1 on enclosed inquiry slip

How TOTELINE can cut your costs on parts handling

Improve your handling of small parts and make substantial economies by switching to Toteline tote boxes or trays for handling small parts. Here's how:

- Replace wooden, steel, enameled or fiberboard boxes with Toteline products — made of reinforced molded fiber glass which can't rust, leak, splinter, crack or tear. It's stronger than steel, pound for pound.
- You get a box for handling or storing parts which is light for easy lifting, stacks easily without toppling.
- Boxes and trays can be cleaned by dipping in hot water. There are no corners or crannies for dirt to lodge.
- Toteline trays and boxes have wire reinforced edges for more strength.
- You eliminate maintenance expense. No re-painting, no chipping or cracking.
- Constant tare weight.



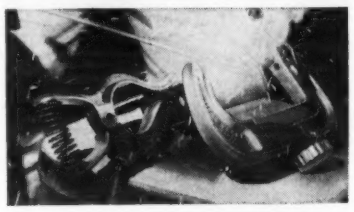
Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to 3/16 inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
ONE OF THE MOLDED FIBER GLASS COMPANIES
World's Largest Producer of Reinforced Plastic Trays and Tote Boxes

For more details circle NED-350 E1 on enclosed inquiry slip

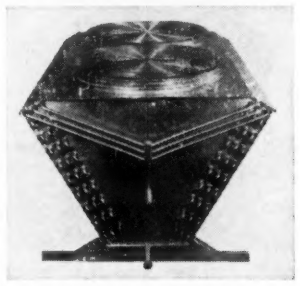
WELDING CLAMP aids welding rounds to flats



Added to line of threadless - spindle welding clamps which allow mounting in any position within 1/4 in. of arc is a special clamp made of solid beryllium copper. Spatter will not stick to the spindle or to the body of the clamp. Unit opens and closes quickly and has a threadless spindle which eliminates frame twisting when tightened. Clamps are available with vee spindles and can be obtained in 2, 4, and 6-in. frame sizes and 4 x 4 and 6 x 6-in. deep throat sizes. • **United Associates**, 1605 N. Hercules Ave., Clearwater, Fla.

For more details circle NED-351 E1 on enclosed inquiry slip

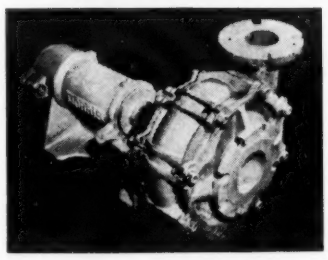
AIR-COOLED CONDENSER made in 3 to 10-ton capacities



Coils are arranged in a V-shape in the V-Con air-cooled condenser so that air is drawn through them and discharged vertically upwards by the propeller fans. This arrangement provides a low silhouette in a minimum of floor space. The remote condenser line features direct drive fans, totally enclosed motors, and an aluminum cabinet in capacities of 3 to 10 tons. • **Halstead & Mitchell Co.**, Bessemer Bldg., Pittsburgh 22, Pa.

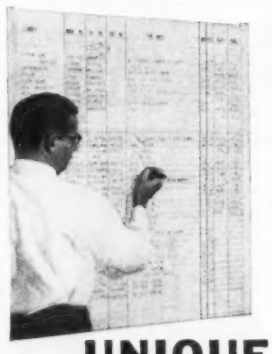
For more details circle NED-352 E1 on enclosed inquiry slip

SLURRY PUMPS in six sizes from 1 to 4 in.



This JC slurry pump approximates the efficiency of a clear water pump in handling of both abrasive and corrosive substances. Series includes eleven models in 1, 1½, 2, 2½, 3, and 4-in. sizes. Three different bearing frames are available and various impeller-casing combinations enable the pump to meet exacting head-capacity conditions. Advantages include standardized components; choice of medium, hard, or extremely hard metal casings, impellers, and liners; heavy-duty thrust and radial ball bearings; and threaded-to-shaft impellers. • **Morris Machine Works**, 20 E. Genesee St., Baldwinsville, N. Y.

For more details circle NED-353 E1 on enclosed inquiry slip



Notes grease penciled on the extruded clear plastic Memo Strips*.

Desired columns laid out using adhesive striping tape.

Column title headings made up using adhesive letters.

Memo Strips* slide up and down, snap in and out for easy arrangement.

UNIQUE VISUAL CONTROL

MEMO FLEX,* the new visual control/scheduling board that is easy to use, flexible and low in cost.

Tells you at a glance where things stand, where trouble may be developing. A visual picture of concise details, a constant spur to action. Easily kept active and accurate, it saves time and trouble wherever simple, effective visual control is needed.

Every unit comes complete with all the elements for the user to create his own custom layout. Only $49.50 F.O.B. Plant. Literature on request.

Memo Flex* DIVISION
515 Bannock Street, Dayton 4, Ohio
National Distributor QuesTronics Division, Chicago 6, Ill.
*TRADE MARKS OF THE GARRISON MACHINE WORKS, INC., PAT'D. PEND.

For more details circle NED-354 E1 on enclosed inquiry slip

PANNIER SINGLE WHEEL CODE PRINTERS MARK YOUR PRODUCTS *Quickly . . Clearly*

Do you have a product that's hard to mark? The concrete walk blocks shown here are being marked quickly, easily and clearly with a Pannier Single Wheel Code Printer. This is only one of many marking problems solved with the versatile Pannier Wheel Printer. Equipped with a conveyor-type mounting, it can be adapted to your production line.

Pannier Single Wheel Code Printers have an ink fountain designed for longer runs without re-inking. Different styles of wheels are available to accommodate E-Z Set fast-change type, rubber printing dies and logo-types or interchangeable Dovetail Rubber Type in character sizes from 1/16" up. These printers are available with or without friction bands to aid printing flat surfaces with small characters, or for non-continuous marking.

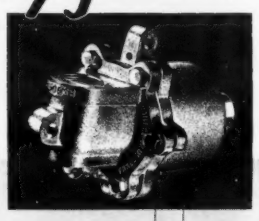
Ink fountains are quick-change, permitting you to change color or type of ink to mark different products. Pannier offers a complete line of inks in a wide range of colors to meet your specific marking need. For further information, write:

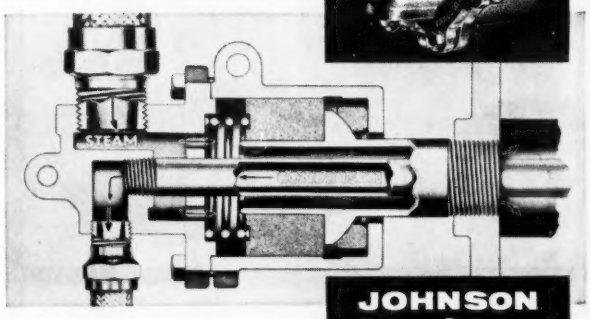
PANNIER MASTER MARKERS
325 Pannier Bldg., Pittsburgh 12, Pa.

For more details circle NED-355 E1 on enclosed inquiry slip

Need a rotary joint?

. . . for water-cooled or steam-heated rolls . . .





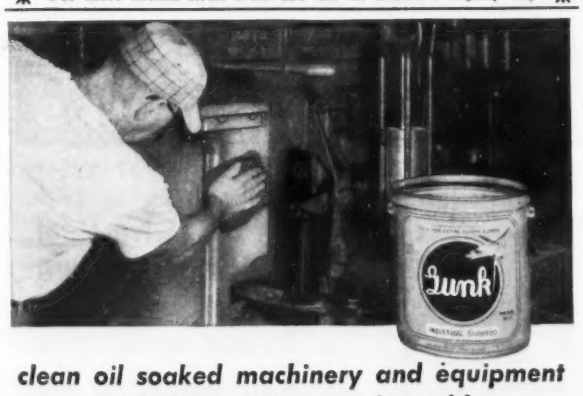
Type SB illustrated is completely self-supporting. For fully engineering data write for Bulletin S-3002.

JOHNSON Rotary Pressure JOINTS

Johnson started the whole idea . . . is far ahead in know-how, available types and sizes. Johnson Joints are completely packless, need no lubrication or adjustment. Used on dryer rolls, mills, waxers, calenders, slashers, printing presses, etc.—handling steam, water, hot heat transfer oils, Dowtherm, Mansanto Aroclors, etc. Actually serving under pressures as high as 2400 psi. Sizes up to 8".

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Michigan

For more details circle NED-356 E1 on enclosed inquiry slip



clean oil soaked machinery and equipment with fast-acting, non-burnable

GUNK®

INDUSTRIAL SHAMPOO!

. . . write NOW for details

® Reg. trade mark

GUNK LABORATORIES, INC.
Gunk Chicago Co., River Forest, Illinois serving the Midwest and Southwest
Radiator Specialty Co., Charlotte, No. Carolina serving the East, Southeast and far West

For more details circle NED-357 E1 on enclosed inquiry slip

NEW ALSOP

Portable Air Motor

MIXERS

- Explosion Proof
- Cannot Burn Out
- Light Weight—Safe

Try a new Alsop Portable AIR Motor Mixer, ⅛ thru 1 H. P. for most liquids from low to medium viscosity. Used safely with flammables, acids or in explosion proof atmospheres. Compressed air operation eliminates dangerous sparking. Ruggedly constructed for batch mixing. Only ⅓ as heavy as equal capacity mixers. Shaft and propeller available in carbon steel, stainless, special alloys and coatings. Standard units 500 and 1800 RPM. Variable speed operation available.

Write today for FREE Catalog

ALSOP ENGINEERING CORPORATION
NEW STREET, MILLDALE, CONN.

For more details circle NED-358 E1 on enclosed inquiry slip

CONCRETE REFINISHING PROBLEM?

FIX-IT . . . WITH LARSEN-MIX™

Now . . . a faster, easier, better way to produce thin, self-bonding cement toppings . . . from feather-edge to ¼".

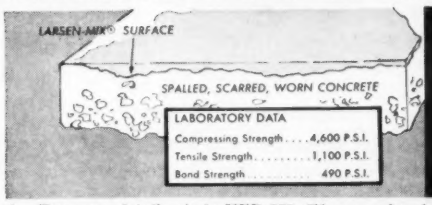
The answer is Larsen-Mix . . . an entirely new type of dry mix cement topping to which you just add water, mix and trowel on. Larsen-Mix is not an epoxy . . . not a latex . . . yet it easily meets the most exacting requirements.

It possesses an amazing compressive strength of 4,600 p.s.i., tensile strength of 1,100 p.s.i. and bond strength of 490 p.s.i.

Application of Larsen-Mix is foolproof. Color may be added. It is non-toxic, non-fuming, non-caustic, vermin-proof. Non-flammable. Contains no volatile organic solvents.

Get Larsen-Mix at your building materials or hardware dealer. If he doesn't have it, write us direct for complete information. *Address Box 5938-N*

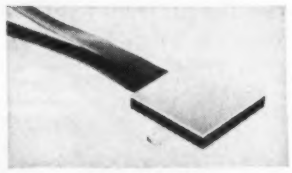
LARSEN PRODUCTS CORPORATION *Bethesda 14, Md.*



in a fix . . . ? USE LARSEN MIX!

For more details circle NED-359 E1 on enclosed inquiry slip

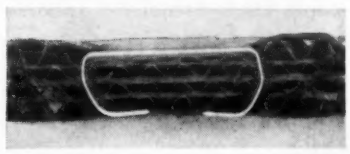
THERMOELECTRIC MODULE
spot-cools transistors, components



Overheating of "black box" circuits caused by heat dissipation of power transistors and other components can be corrected by spot cooling with the TA-20M Thermo-Module. This thermoelectric unit, with 1/16-in. thick aluminum plates on top and bottom, can handle jobs calling for careful temperature control and large heat pumping capacity. Rigid, single module measuring 1½ x 1½ x ½ in. can pump more than 20 w, or attain a temperature differential between hot and cold plates in excess of 80° C. Prices range from $60.71 to $91.06, depending upon quantity. **Tecumseh Products Co.**, Ohio Semiconductors Div., 1205 Chesapeake Ave., Columbus 12, Ohio.

For more details circle NED-361 E1 on enclosed inquiry slip

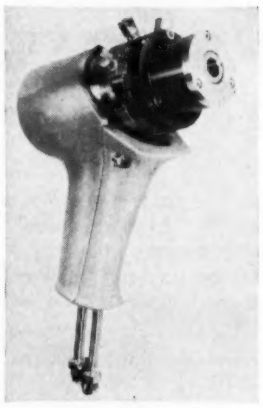
⅞-IN. LEG STAPLE
clinches two double-wall boards



The ⅞-in. leg length of this wide crown staple penetrates through two thicknesses of double-wall corrugated board to clinch on the reverse side. It also fastens two layers of tri-wall board where blind clinching into the first flute of the second layer is satisfactory. • **Bostitch, Inc.**, 2022 Briggs Dr., East Greenwich, R. I.

For more details circle NED-362 E1 on enclosed inquiry slip

ARC PLASMA SPRAY GUNS
with mixing module attachment



The SM modular mixing attachment shown mounted on front of this arc plasma spray gun provides a downstream mixing chamber into which various liquids, solids, or gases can be injected and mixed with the plasma. Attachment makes possible the gun's use for high temperature materials screening tests; simulated re-entry testing of material or chemical synthesis on a pilot model basis; rocket exhaust simulation; thrust measurements; and spraying of low melting point materials. Attachments are available for 25, 40, and 80-kw hand spray guns. The SM 780 assembly has three ports for injection of up to three different materials or gases; the SM 776, one injection port and one pressure tap. • **Plasmadyne Corp.**, 3839 S. Main St., Santa Ana, Calif.

For more details circle NED-363 E1 on enclosed inquiry slip

THE MOST USEFUL TOOL IN YOUR SHOP

Economy Elevating Table

- DIE HANDLER
- LOAD LEVELER
- CONSTANT HEIGHT TABLE
- PORTABLE WORK TABLE

Dimensions . . . . . 24" x 36"
Capacity . . . . . 2000 lbs.
Lift . . . . . 24" min. to 42" max.
Price: F.O.B. Chicago $245.00

Free 10 day trial in your plant with return privilege

POSITIVE PERFORMANCE
Self-locking Acme screws hold load safely, securely, at any height.

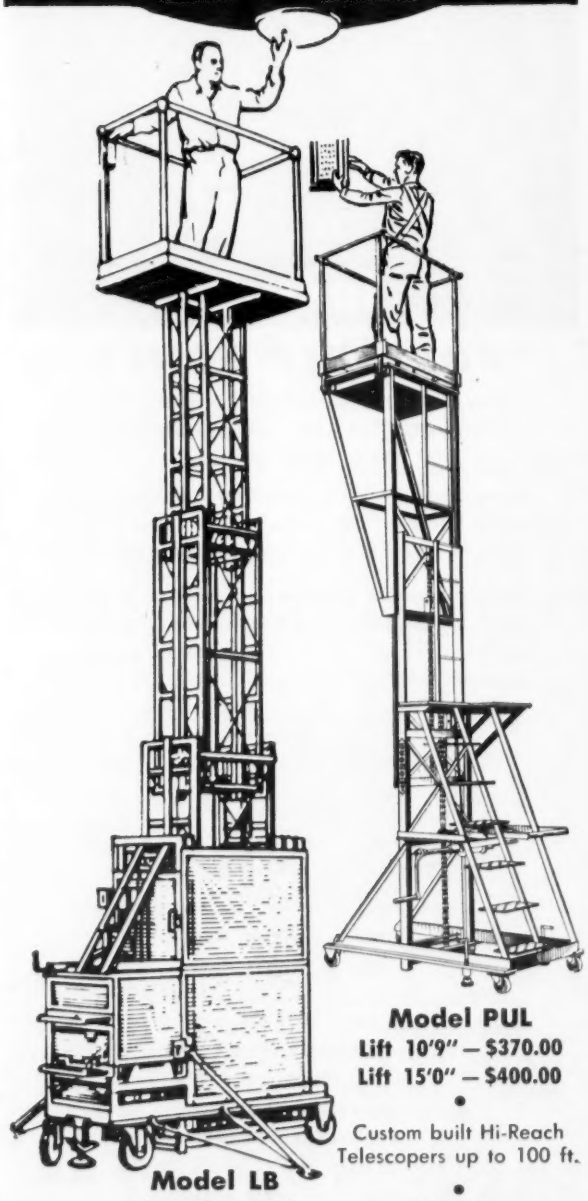
COMPACT DESIGN
No projecting parts—all four sides accessible; crank studs at both ends; three table surfaces.

ECONOMY ENGINEERING 4519 W. Lake St., Chicago 24, Ill.

For more details circle NED-364 E1 on enclosed inquiry slip

The man who feels safe works better on overhead maintenance

HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00

•

Custom built Hi-Reach Telescopers up to 100 ft.

•

Write for complete catalog

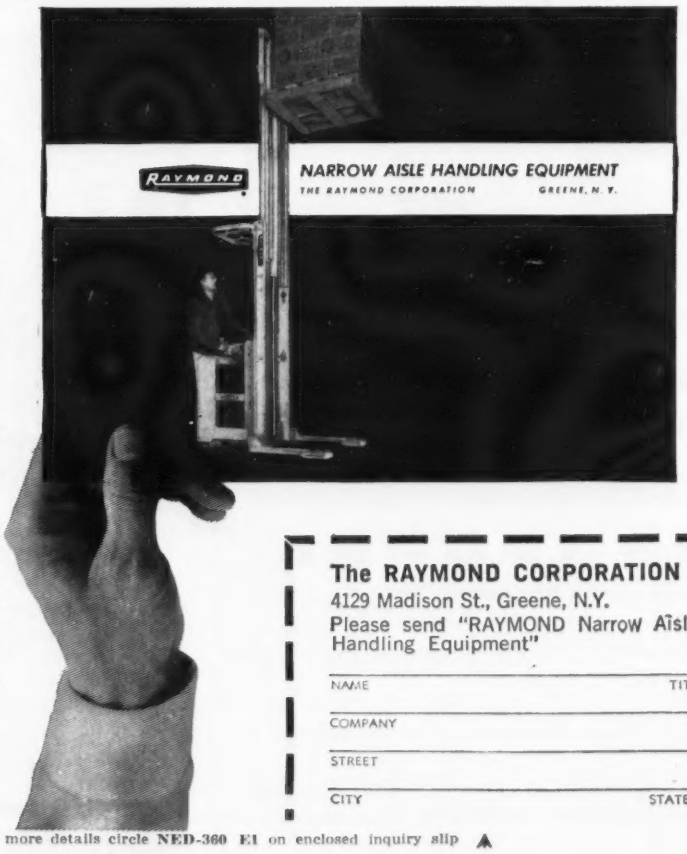
Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

For more details circle NED-365 E1 on enclosed inquiry slip

facts at your fingertips



JUST RELEASED! New catalog illustrating the complete line of RAYMOND Narrow Aisle Handling Equipment. Contains ideas that could save your company thousands of dollars! Send for your FREE copy now.

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Originator and world's largest builder of narrow aisle trucks

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Please send "RAYMOND Narrow Aisle Handling Equipment"

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For more details circle NED-360 E1 on enclosed inquiry slip

GRAVELY CLEAN-CUT 70

BIG MOW-BILITY DOES YOUR JOB BETTER!

in HALF the time at HALF the cost

Free your people for other important work; save man-hours. The Clean-Cut 70 ROTARY GANG MOWER gives you extra power, extra speed, extra maneuverability.

Ride at 5 MPH and cut a swath 70 inches wide! Change your cutting width *while you mow!* Trim, mow, mulch . . . all in one money-saving operation.

Unexcelled maneuverability with unique rear-wheel drive and steering. Mow slopes as steep as 30%!

There's a 35 and a 24 inch rider mower and a self-propelled 20 inch unit, too. See what Clean-Cuts can do for your grounds.

Ask your Gravely dealer for a FREE demonstration, or write for complete FREE LITERATURE to:

GRAVELY CLEAN-CUT MOWERS
P.O. BOX 768-E DUNBAR, WEST VIRGINIA

For more details circle NED-366 E1 on enclosed inquiry slip

SUNNEN

PORTABLE HONES

SAVE MANY HOURS IN PRODUCTION, SALVAGE, JOB LOT, MAINTENANCE AND TOOL ROOM

More than 100,000 satisfied users testify to the utility of these "Tools of a Thousand Uses" for internal diameter work in nearly all materials.

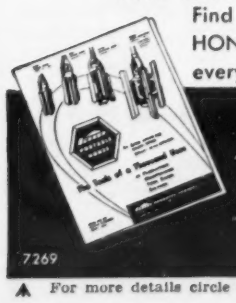
Sunnen Portable Hones are guaranteed to produce geometrically round, straight bores—accurate within .0005"—with any desired cross-hatched, lubricant-retaining finish.

- CORRECTS MACHINING ERRORS
- EXACT SIZE CONTROL
- CONTROLLED SURFACE FINISH
- FASTEST STOCK REMOVAL
- POSITIVE ADJUSTMENT
- PORTABLE, YET RUGGED
- OPERATES IN ANY POSITION

Your Sunnen Field Engineer will be glad to help you solve your sizing problems at no obligation to you.

SN-75 Midget Hone	Range 1 3/4" to 2"
JN-95 Junior Hone	Range 2" to 2 5/8"
AN-112 Standard Hone	Range 2 1/2" to 7"
AN-812 Heavy-Duty Hone	Range 4 3/4" to 20 1/2"

WRITE FOR FREE BOOKLET!
Find out how SUNNEN PORTABLE HONES can help you in your everyday shop work.

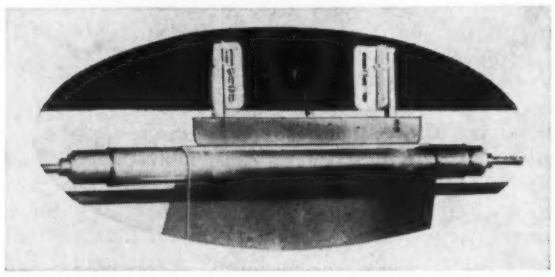


SUNNEN PRODUCTS COMPANY
HONING
7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario
7269

For more details circle NED-367 E1 on enclosed inquiry slip

SPARK GENERATORS
for surface treating polyethylene

Surface of polyethylene film, lay-flat tubing, and coated paper is treated by this high frequency spark generator to increase their receptivity to printing, ad-

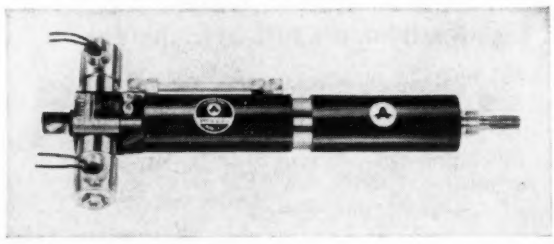


hesion, and other processing. One or more electrodes can be used to treat the entire surface width, or single or multiple strips on one or both sides. In most cases, treatment is done in line with the extruder. Bench Model HFSG-2 shown can treat material up to 8 ft wide at a rate of 1000 sq ft per minute. Console Model HFSG-6 treats 15-ft widths at rates up to 5000 sq ft per minute. • **Lepel High Frequency Laboratories, Inc.**, 55th Street & 37th Avenue, Woodside 77, N. Y.

For more details circle NED-368 E1 on enclosed inquiry slip

TANDEM CYLINDERS
lengths to 80 in. in five bore sizes combine air and hydraulic operation

Type BVT tandem cylinders consist of a valve-in-head cylinder and a double-acting cylinder mounted in line and featuring a common head at the center and two



separate pistons mounted on one solid rod. Bore sizes of 1½, 2, 2½, 3, and 4 in. are offered in cylinders with lengths up to 80 in. A choice of mounts and 48 different models of valve-in-head cylinders for the power section are offered.

Units combine the advantages of valve-in-head cylinders with the advantages of hydraulic control of an air-operated cylinder. Hydraulic fluid is used either in the front cylinder or in the middle section without a make-up chamber. Air speed controls are provided in the valve section of the valve-in-head cylinders; hydraulic speed control is obtained by piping flow control valves in series with the two ports used for the hydraulic section. • **Allenair Corp.**, 255 E. Second St., Mineola, N. Y.

For more details circle NED-369 E1 on enclosed inquiry slip

Convenient, too!

THE MODERN CONTAINER WITH BUILT-IN APPLICATOR TOP

SPREADS EASILY, QUICKLY, WITHOUT DRYING . . .

STAYS IN PLACE UNTIL ASSEMBLY.

Leak Lock . . .
the joint sealer to use with CONFIDENCE!

Use Leak Lock on threads, flange surfaces. It works where other joint compounds fail . . . will NOT heat spontaneously . . . withstands solvents that eat away other "sealers" . . . stays flexible, withstands shocks, prevents joint freezing. Sold in 4-oz. can—1½ oz. squeeze tubes—pint and 10-lb. containers.

For free sample, write on letterhead giving us the name of your local Industrial Distributor.

Listed by Underwriters' Laboratories for gas, oil, propane and butane equipment.

HIGHSIDE CHEMICALS INCORPORATED
14 COLFAX AVENUE • CLIFTON, NEW JERSEY

For more details circle NED-370 E1 on enclosed inquiry slip

NEW
FAS-LOK STORAGE RACK

- ONLY 2 BASIC PARTS . . . QUICK ERECTION
- NO WEDGES . . . NO BOLTS, NUTS, OR TOOLS REQUIRED
- SAFE . . . RUGGED . . . COMPLETELY ADJUSTABLE
- Easy access — front or rear.

FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5′ to 22′ 6″, have slots punched in uprights on 3″ centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2′ to 5′. End Frames made in capacities to 40,000 lbs.

Write for Catalog

CHICAGO TRAMRAIL CORPORATION
1310 S. KOSTNER AVENUE, CHICAGO 23, ILLINOIS
Division of CONCO ENGINEERING WORKS, INC.

For more details circle NED-371 E1 on enclosed inquiry slip

FLUID POWER SYSTEM COMPONENTS — a new compact directory of the complete line of standard Oilgear, and Oilgear Servocontrol Division equipment. This abridged edition of more than 25 individual bulletins contains illustrations, and all principal specifications and operational data.

- 16 PAGES
- PUMPS
- PUMP CONTROLS
- MOTORS
- TRANSMISSIONS
- CYLINDERS
- SERVO COMPONENTS
- VALVES
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Request Oilgear Bulletin 10051 J

THE OILGEAR COMPANY
Application-Engineered Fluid Power Systems
(the standard for comparison in all industry)
1582 W. PIERCE ST. • MILWAUKEE 4, WISCONSIN

For more details circle NED-372 E1 on enclosed inquiry slip

Especially adaptable for flumes or vibrator applications. Easily interchanged with other types of Kleenslot screens without mechanical changes.

For Additional Information, Write
WEDGE WIRE CORPORATION
WELLINGTON, OHIO

For more details circle NED-373 E1 on enclosed inquiry slip

New Stock Molded Knobs

AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

Meet MIL-P-14 Specs

MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅛" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

ROGAN BROTHERS, Inc.
8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

How to select WORM GEAR Drives FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-375 E1 on enclosed inquiry slip

what's so different about these time/delay/relays?

AGASTATs are unique. They're *pneumatically* operated, but electrically actuated—they recycle instantly, are unaffected by voltage variations, and provide easy adjustment over 1-o-n-g time ranges. Just a few moving parts, with service life measured in millions of cycles!

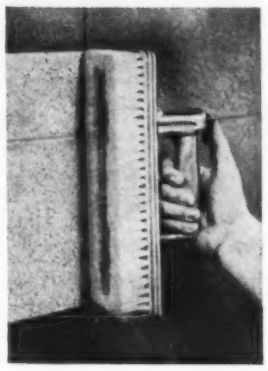
Industrial models (left) are dial-adjusted for delays up to 15 min., or with needle valve adjustment. Miniature Agastat on right weighs only 15 oz., in hermetically sealed or unsealed types, for MIL Spec or other demanding applications.

AGASTATs are available in single- or double-pole versions, with delay on pull-in or drop-out. For details write Dept. 12-105

ELASTIC STOP NUT CORPORATION OF AMERICA
ELIZABETH DIVISION • ELIZABETH, NEW JERSEY
IN CANADA: ESNA CANADA LTD., 12 GOWER ST., TORONTO 16

For more details circle NED-376 E1 on enclosed inquiry slip

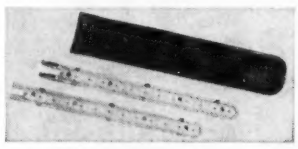
BRUSH-TYPE WALL CLEANER for rough masonry surfaces



Thorough cleaning of painted cinder blocks, concrete blocks, bricks, sandfloat plaster, thrown plaster, precast cement slabs, and other type masonry walls and ceilings is speeded up with this brush-type trowel. It attaches to Wall-O-Matic air pressure type wall cleaning machine and has strong bristles for getting into crevices. Thumb control valve on trowel emits a cleaning solution in a fog spray which, with a light scrubbing action, assures efficient cleaning action. • **Central States Maintenance, Inc.**, 125 N. Marion St., Oak Park, Ill.

For more details circle NED-377 E1 on enclosed inquiry slip

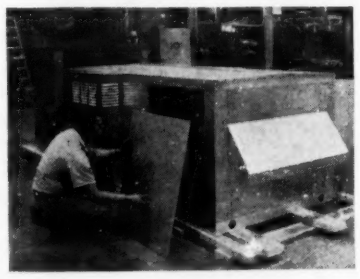
MANOMETERS made in 6 to 18-in. sizes



Water, glycerine, mercury, or oil can be used in these portable manometers, available in open-end and valve models. Readings on valve models are taken by unscrewing the valve one-half turn. Manometers are used for checking appliances and bottled gas tanks, and for setting orifices. Five sizes from 6 to 18 in. use a ⅜-in. plastic tube to preclude damage from rough handling. Plastic carrying case is included. • **Gas Consumers Service**, 45-46 21st St., Long Island City 1, N. Y.

For more details circle NED-378 E1 on enclosed inquiry slip

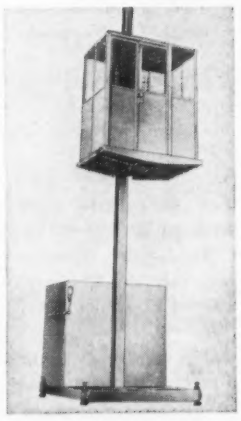
HEATING & COOLING UNIT prewired unit for roof-top mounting



Total cooling capacity of the Model CRU-801 heating and cooling unit is 75,900 Btu per hour, and the gas furnace output is 160,000 Btu per hour. The 7½-hp unit is divided into two separate sections to facilitate handling, shipping, and adaptability to the end use. Heating section includes two fans on a common shaft, a 1-hp fan motor and variable pitch drive, filters, and two 100,000 Btu input duct type furnaces. An air cooled condensing unit, evaporator coil, and control box comprise the cooling section. Each is prewired, mounted on a 4-in. channel iron frame, and enclosed in aluminum panels. Being sectionalized, it is easily lifted to any roof. Supply and return air enters through a single ceiling diffuser. Alternate external supply and return duct connections may be made. • **Westinghouse Electric Corp.**, Air Conditioning Div., Box 510, Staunton, Va.

For more details circle NED-379 E1 on enclosed inquiry slip

PORTABLE ELEVATOR has 8-person, 2000-lb capacity



Driven in both ascent and descent by a direct drive 10-hp gearmotor, the Hawkeye portable personnel elevator travels on a monorail at a speed of 62 fpm. Power unit is connected to a 24-in. diameter steel drum with a 48:1 cable-to-drum ratio to minimize bending stresses and prolong cable life. Manual stop safety device is available in addition to the electrical over-speed governor and broken cable safety features. Capacity is eight persons or 2000 lb. Standard models may be erected up to 250 ft to go higher up or down into a hole. Vertical monorail is available in 10-ft lengths. The 4 x 6-ft car is 7 ft high. • **Hawkeye Products Corp.**, 212 Dey Bldg., Iowa City, Iowa.

For more details circle NED-380 E1 on enclosed inquiry slip

A MAJOR BREAKTHROUGH ON ENGINEERING CAMS

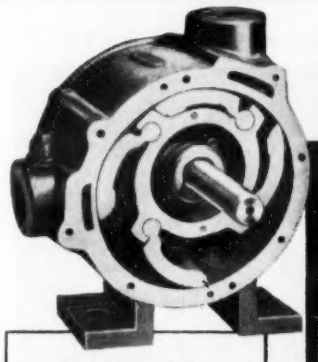
by the world's leading CAM manufacturer

Write for Bulletin No. 105 which completely details and outlines how you can

SAVE 2,300%
on engineering computation alone

EONIC Inc. automated CAM engineering
464 E. Hollywood Ave. • Detroit 3, Michigan

For more details circle NED-381 E1 on enclosed inquiry slip



WEAR-FREE! CARE-FREE! REPAIR-FREE!

LEIMAN AIR PUMPS with the Exclusive HINGED VANE DESIGN

Practically take care of themselves

Self-honing surfaces. Curved cast iron vanes rotating against cast iron cylinder walls hone wear surfaces to a hard, glassy smoothness. Provides continuous leak-proof seal and low-friction operation.

Self-renewing vanes. Cast iron vanes take up their own negligible wear. No composition tips to wear and renew. Provides years of new-pump efficiency.

Self-oiling. Leiman Automatic Oiler feeds the right amount of oil while running—needs no manual regulation—prevents over-oiling—reduces possibility of oil-staining.

The simplified Leiman hinged vane design provides larger air space, higher capacity—permits use of smaller pumps, slower speeds, lower horsepower. Every pump rigidly test-run before shipment. Specify Leiman Air Pumps for your vacuum, suction or pressure operations for lifetime dependability. Consult Leiman engineers on any application.

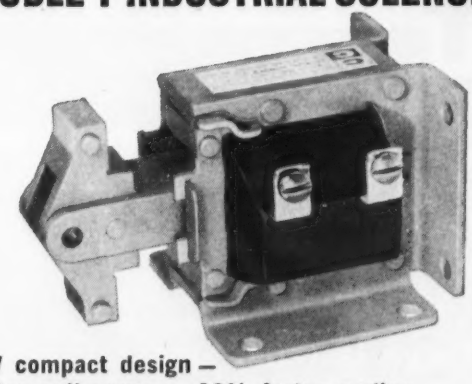
Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR LATEST CATALOG and Application Book showing many how-to-do-it blueprints.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N. J.
Established 1889

For more details circle NED-382 E1 on enclosed inquiry slip

DOUBLE T INDUSTRIAL SOLENOID



NEW compact design — greater pull-power . . . 20% faster cycling

First time on the market—Controls Company's 831 series *industrial solenoid.* A new design with greater performance than some solenoids twice the size. Check these features:

- Double T plunger design gives more-level pull characteristics without power drop-off
- Frame and core protection by epoxy paint
- Heavy-duty universal mounting bracket — mounts in any position without removing screws
- Heavy-duty reinforced linkage

Write for complete data.

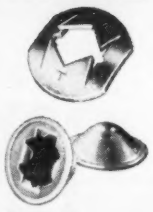
Creative controls for industry

CONTROLS COMPANY OF AMERICA
APPLIANCE AND AUTOMOTIVE DIVISION
9577 Soreng Avenue—Schiller Park, Illinois • Cooksville, Ontario • Zug, Switzerland

For more details circle NED-383 E1 on enclosed inquiry slip

...MARK OF A SPEED NUT®

• One-piece Push-On SPEED NUTS® cut assembly time • tough, vibration-proof, top-quality spring-steel • eliminates threaded nuts, lock washers, spanner washers • easy-off, removable types available • complete selection of shapes and sizes



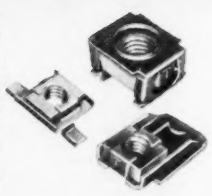
Write for free descriptive literature

LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
▲ For more details circle NED-384 E1 on enclosed inquiry slip ▲

...MARK OF A SPEED NUT®

• Solves blind-location fastening problems • nut in a self-retaining cage eliminates welding or staking • snaps in place anywhere along assembly line, applied after painting or porcelainizing, eliminates masking or retapping of clogged threads • extra holding power for high-torque applications • for a wide range of screw sizes and panel thicknesses



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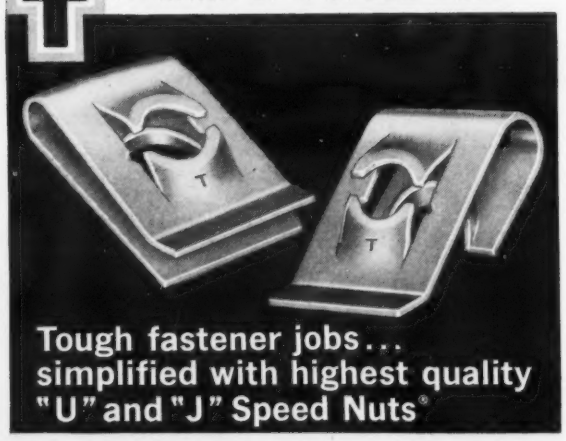
LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
▲ For more details circle NED-385 E1 on enclosed inquiry slip ▲

...MARK OF A SPEED NUT®



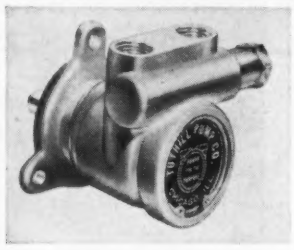
• Snap quickly over panel edge... or in center panel hole ready to receive screw • self-locking, vibration-proof, one-piece spring-steel • eliminate welding, staking, secondary fastening methods • lock securely in place, yet easy to remove • sizes, shapes for wide range of applications

Write for free descriptive literature

LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO
▲ For more details circle NED-386 E1 on enclosed inquiry slip ▲

SMALL WATER PUMP
for vending machines, light duty use



Five models of this Series W vane type water pump have capacities of 20 to 100 gph at 100-psi differential pressure when driven at 1725 rpm. Each is available with or without a built-in relief or bypass valve. Shaft can be modified to suit application. These corrosion resistant pumps have carbon vanes, end plates, and eccentric rings and a new type phenolic-ceramic face seal. Other parts are stainless steel or bronze. • **Tuthill Pump Co.**, Dept. WN, 939 E. 95th St., Chicago 19, Ill.

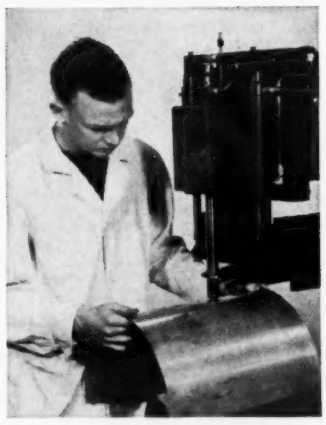
▲ For more details circle NED-387 E1 on enclosed inquiry slip ▲

DRILLED FILLISTER-HEAD SCREWS
18-8 stainless type meets AN specs

Drilled fillister-head screws made of 18-8 nonmagnetic stainless steel are now carried as a stock item by this company. Screws meet the new AN 500 AD and AN 501 AD specifications. All popular sizes and lengths are available, in small as well as large orders. • **Albany Products Co.**, 351 Connecticut Ave., South Norwalk, Conn.

▲ For more details circle NED-388 E1 on enclosed inquiry slip ▲

ULTRASONIC SPOT WELDER
4000-w model has 36-in. throat



Only small interconnecting cables which can be 100 ft or more in length are required to connect the welder with the power source of the Sonoweld ultrasonic spot welding equipment. The compact 4000-w Model W-4000-FSR is easily operated from a remote location. Ultrasonic coupling system permits welding in hard-to-reach locations, and water cooling affords high welding repetition rates. Machine has a throat depth of 36 in. and is suited for joining refractory metals such as molybdenum, niobium, tantalum, and tungsten, and well as more common metals, including aluminum. • **Sonobond Corp.**, 310 E. Rosedale Ave., West Chester, Pa.

▲ For more details circle NED-389 E1 on enclosed inquiry slip ▲

HOW MUCH WILL MECHANIZED FLOOR CARE SAVE YOU?

Figure it out by comparing the average time required for a man to mop your floors vs. *cleaning* them with a Clarke-A-matic Floor Maintainer:

FLOOR AREA IN SQ. FT.	ONE MAN WITH MOP	ONE MAN WITH CLARKE-A-MATIC	HOURS SAVED
20,000	20 hrs.	1½ hrs.	18½ hrs.
50,000	50 hrs.	4 hrs.	46 hrs.
100,000	100 hrs.	8 hrs.	92 hrs.

Translate this into dollar savings by multiplying your hourly labor cost by the hours saved with a Clarke-A-matic.

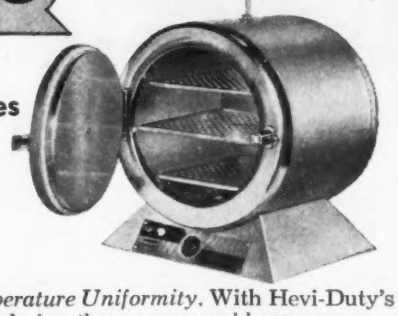
For example, if you have 50,000 sq. ft., it takes 50 hours with a mop, only fours with a Clarke-A-matic. You save 46 hours. Based on the national average labor rate of $1.50 per hour, *you save $69 every time you Clarke-clean your floors.*

And, Clarke-A-matic gets floors *clean*! It scrubs, picks up dirt and squeegee-dries, all in one self-propelled operation.

Ask to have your Clarke distributor tell you more about Clarke mechanized floor care. Write us today.

CLARKE FLOOR MACHINE CO.
DIVISION OF STUDEBAKER-PACKARD CORPORATION
225 E. Clay Avenue, Muskegon, Michigan
▲ For more details circle NED-390 E1 on enclosed inquiry slip ▲

new..... HEVI-DUTY
CIRC-O-THERM OVEN

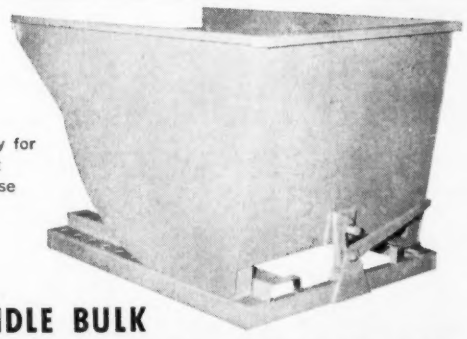


Temperatures to 250° C. (480° F.)

Improved Temperature Uniformity. With Hevi-Duty's "circle-of-heat" design there are *no cold corners.*
Fast Heat-Up. To 200° C. in less than one hour.
Low-Cost Operation on either 115 or 230 volts. Selector switch permits high or low input to enclosed heating elements.
Durable Double-Wall Construction. Steel outer shell is prime coated on both sides to prevent corrosion.
Accurate Temperature Control by sensitive bulb-type thermostat permits little lag or overshoot.
For complete information, write for Bulletin 458.

Model	Price	Chamber Size		Watts	Volts	Overall Dimensions			Shipping Weight
		Diameter	Depth			Width	Depth	Height	
HK	$169.	15	13	600	115/230	20	18	23	80
HL	$265.	20	18	1000	115	25	23	28	100

HEVI DUTY ELECTRIC COMPANY
WATERTOWN, WISCONSIN
▲ For more details circle NED-391 E1 on enclosed inquiry slip ▲



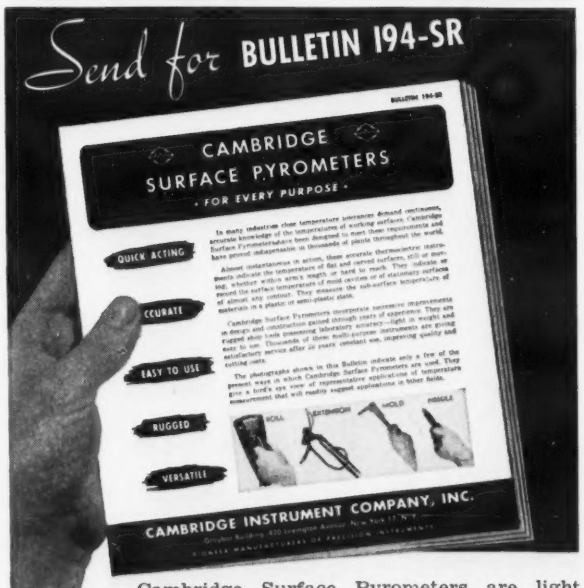
¾ yd. capacity for fork lift truck use

HANDLE BULK MATERIALS WITH ECONOMY AND EASE IN CHASE DUMP HOPPERS

Sturdy construction and careful balance make this self-dumping hopper ideal for handling bulk materials, parts, scrap, etc. Models for use with platform or fork lift truck. All welded construction, using 3/16" steel plate. One man can operate the hopper alone — the hopper automatically dumps and returns to locked upright position. Special styles may be stacked full or empty. Sizes to suit your needs. Write for catalog sheet and prices.

Chase FOUNDRY & MANUFACTURING CO.
2950 Parsons Avenue • Columbus 7, Ohio
▲ For more details circle NED-392 E1 on enclosed inquiry slip ▲

Send for BULLETIN 194-SR



Cambridge Surface Pyrometers are light weight, portable instruments — accurate but rugged — for measuring temperature of mold cavities and flat surfaces drier, calender and mill rolls, and plastic batches and extrusions. Write for Bulletin 194-SR; 33 illustrations, many plastic applications.

CAMBRIDGE INSTRUMENT CO., INC.
1663 Graybar Bldg., 420 Lex. Ave., N. Y. 17, N. Y.

THEY HELP SAVE MONEY AND MAKE BETTER PLASTICS

▲ For more details circle NED-393 E1 on enclosed inquiry slip ▲

MAY-FRAN CHIP CONVEYOR

MAY-FRAN
makes a standard chip conveyor for every machine tool

MAY-FRAN MANUFACTURING CO.
1710 CLARKSTONE RD.
CLEVELAND 12, OHIO
PHONE: KE 1-2304

▲ For more details circle **NED-394 E1** on enclosed inquiry slip ▲

DELAY RELAY? LOAD RELAY?

BOTH!

- This time delay relay, the Type A Silic-O-Netic, doubles as a load carrier. It needs no slaves, no auxiliary lock-ins. Saves solder, wire, work, space, time, and money.
- The Type A weighs just three ounces. Delays range from 0.25 to 120 seconds. Switching is SPDT or DPDT; contact capacity up to three amps. Lifetime, several million operations.
- Well worth a closer look; write for Bulletin 5003.

HEINEMANN ELECTRIC COMPANY
106 Brunswick Pike
Trenton 2, New Jersey

GA 2413

▲ For more details circle **NED-395 E1** on enclosed inquiry slip ▲

60 second photomicrography

with the AO METALLOGRAPH

AO's "Workhorse" Metallograph is combined with the Polaroid Land Camera to give a combination that is unbeatable for quick, precise visual observations and "picture-in-a-minute" photomicrography.

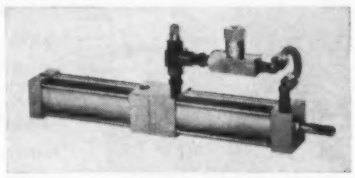
Focusing is automatic while you examine the specimen through the eyepieces. You simply *snap* the shutter...*see* the Polaroid print in just 60 seconds.

The Metallograph camera aperture also will accommodate a regular 5" x 7" fixed camera back. Or, you can also use 4" x 5" and 3¼" x 4¼" plates or cut film by means of adapter film or plate holders.

American Optical COMPANY
INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

▲ For more details circle **NED-396 E1** on enclosed inquiry slip ▲

TANDEM CYLINDERS
air-oil type in three bore sizes

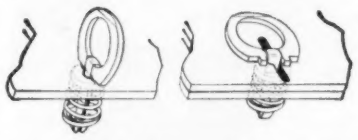


Accurate speed control of hydraulic cylinders is combined with air operation in Tom Thumb air-oil tandem cylinders. Eight mounting styles are available in ¾, 1, and 1⅛-in. bores, rated to 200 psi maximum. Cylinders have noncorrosive barrel, stainless steel piston rod with lip type rod seals, Delrin rod bushings, Teflon rod wiper, and choice of O-ring or lip type piston seal. • **Pneumatic-Hydraulic Development Co.**, Tom Thumb Div., 317 W. Masterson, Ft. Wayne, Ind.

▲ For more details circle **NED-397 E1** on enclosed inquiry slip ▲

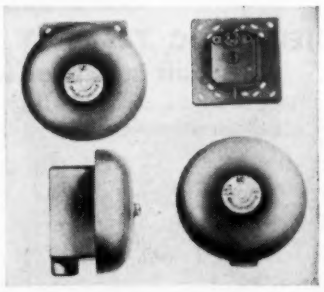
SPRING-LOADED LATCH
for panels and access doors

Easily and quickly installed without riveting, screws, spot welding, or special tools, this inexpensive spring-loaded latch is used in any application requiring a quarter-turn sheet metal type fastener. Spring tension minimizes noise transmission and vibration when used in removable panels and access doors. Cadmium plated latch accommodates thicknesses up to ¼ in. • **Monadnock Mills**, 1977 First Ave., San Leandro, Calif.



▲ For more details circle **NED-398 E1** on enclosed inquiry slip ▲

BELL SIGNALS
indoor and outdoor types



Single stroke bells for use on alternating or direct current and vibrating bells for alternating current only are included in the Valubel line. Indoor units in 4, 6, 8, and 10-in. sizes have the same ringing mechanism as 6, 8, and 10-in. outdoor models. Indoor models have a 4¼-in. square adapter plate (top) for attachment on standard 2 and 4-in. square octagonal utility outlet boxes. They also mount on single and double-gang plaster rings. Outdoor bells (bottom) are housed in heavy cast metal condulets and sealed with weatherproof gaskets. Wiring is through ½-in. conduit. All bells in the line may be specified for 6, 12, 24, 48, 110, or 220 v. • **Wheelock Signals, Inc.**, 273 Branchport Ave., Long Branch, N. J.

▲ For more details circle **NED-399 E1** on enclosed inquiry slip ▲

STEINEN INDUSTRIAL SPRAY NOZZLES

NEW FREE CATALOG . . .
32 illustrated pages of engineering data, including nozzle spray characteristics, capacities, applications and simplified nozzle selection tables.

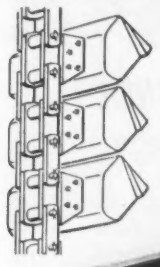
MORE NEW INFORMATION . . .
BULLETINS: Square spray and solid jet patterns.
DATA SHEETS: Leak-proof adjustable joint, phosphatizing nozzle and roof cooling.
COMPARISON CHARTS: Shows nozzle interchangeability.

Write today . . . take advantage of Steinen's complete engineering service.

WM. STEINEN MFG. CO.
INDUSTRIAL NOZZLE DIVISION
39-45 Bruen Street Newark, New Jersey

▲ For more details circle **NED-400 E1** on enclosed inquiry slip ▲

NEW! Hooded back AC cast elevator buckets

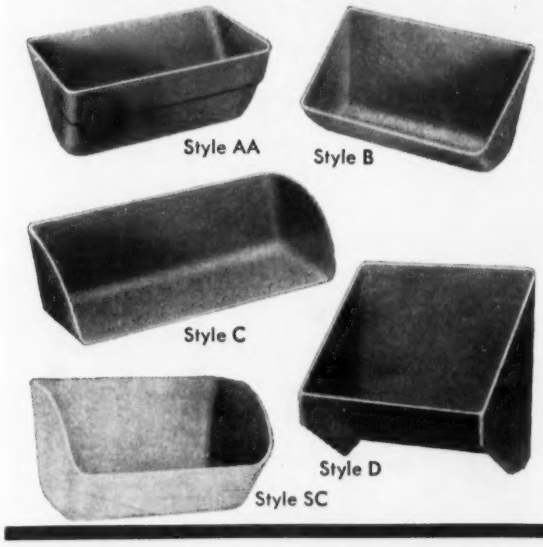


- Greater capacity
- Closer bucket spacing
- More effective discharge

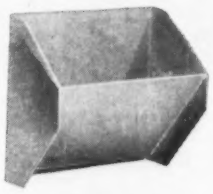
Here's the bucket for high-capacity elevating of cement, clinker, crushed stone and similar materials. *Hooded back* permits close bucket spacing for increased capacity per elevator. *High-front design* assures greater load per bucket. And *thick lip section* promotes long wear life . . . provides extra rigidity.

Link-Belt has malleable or Promal cast buckets for every material and capacity. Catalog 1050 has full details.

OTHER LINK-BELT MALLEABLE CAST BUCKETS



Link-Belt also offers STEEL fabricated elevator buckets



CONTINUOUS AND SUPER-CAPACITY CONTINUOUS — For use where high capacity at low speed is desired. Discharge is fast and clean.

"HS" HIGH SPEED — For high-speed elevating of large capacities. High ends minimize spillage . . . low lip facilitates pickup.

SALEM — Shaped for proper filling and free discharge of granular or powdered free-flowing materials. Ends are folded around the back for extra rigidity.

ALL LINK-BELT STEEL BUCKETS are of welded construction, formed of heavy-gauge steel. For complete information, contact your nearest Link-Belt office or authorized stock-carrying distributor. Or write for Catalog 1050. 15,382

LINK-BELT
ELEVATOR BUCKETS
LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

▲ For more details circle **NED-401 E1** on enclosed inquiry slip ▲

Don't take chances on couplings

CHECK PUBLISHED MISALIGNMENT RATINGS BEFORE YOU BUY

Since misalignment is the basic problem that shaft couplings are designed to solve, you'll find a published conservative misalignment rating (along with load capacity rating) for every Fast's Coupling. Compare it with the misalignment rating of any other coupling you are considering.

One further advantage of Fast's Couplings' misalignment ratings: You save money on installation because, knowing the ratings, you don't have to line up driving and driven elements with pinpoint accuracy. It's one more reason why Fast's Couplings are the choice of more equipment manufacturers than any other gear-type coupling. KOPPERS COMPANY, INC., 705 Scott St., Baltimore 3, Md.

KOPPERS **FAST'S COUPLINGS**

Engineered Products Sold with Service

For more details circle NED-402 E1 on enclosed inquiry slip

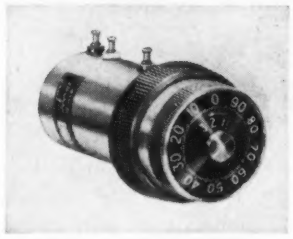
LOOK AT THE FINE POINTS OR YOU'LL MISS THE PAYOFF!

Royal equipment is literally packed with fine points that tailor it to the specific jobs of industry. The Royal Model 515 adjustable chair is typical: contoured, 4-way adjustable back is mounted on strong spring steel to adjust to the slightest body movement. Legs telescope to adjust to most comfortable working height. There's no protrusions to catch clothing or cause injuries. The payoff is worker comfort, efficiency and safety. It's the same with Royal cabinets. All corners are rounded, all hinges and fastenings are concealed. Extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. There are dozens of Royal chairs, stools and cabinets for industry. Each is packed with fine points that make it more efficient, more useful, more valuable. Write for full details today. ROYAL METAL MANUFACTURING COMPANY, Dept. 25-E, One Park Avenue, New York 16, N. Y. In Canada—Galt, Ontario.

Royal INDUSTRIAL EQUIPMENT

For more details circle NED-403 E1 on enclosed inquiry slip

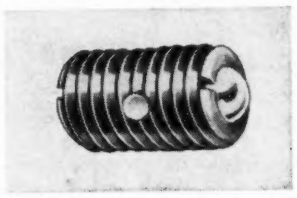
MINIATURE ANGULAR POSITIONER for shaft-controlled devices



One-inch diameter Series 3000 miniature turns-counting Microdial affords accurate angular positioning of any shaft-controlled device of ten turns or less. Unit projects only 15/16 in. from a panel and can be grouped on $1\frac{1}{4}$-in. centers. Standard models accommodate shafts of either $\frac{1}{8}$ or $\frac{1}{4}$ in., although special shaft sizes are available. With addition of a finger-tip brake, unit measures 1 5/32 in. in diameter. Five brake knob colors and three combinations of numeral and background colors are available, as are fluorescent numerals and color anodized aluminum control knobs. • **Amphenol-Borg Electronics Corp.**, Borg Equipment Div., 120 S. Main St., Janesville, Wis.

For more details circle NED-404 E1 on enclosed inquiry slip

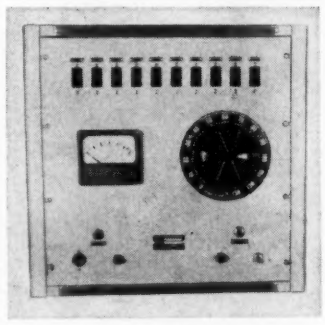
BALL PLUNGERS made of stainless steel



Ten sizes of compact, spring loaded, ball plungers are used in indexing automatic feed devices, for gear shifters, as locators in progressive dies, for positioning gage levers, and in torque limiting clutches. They are made of stainless steel with or without the Nylok thread-locking feature. Sizes from 4-48 x 0.187 in. to $\frac{5}{8}$-11 x 0.984 in. have various end pressures. • **Vlier Engineering Corp.**, 8900 Santa Monica Blvd., Los Angeles 46, Calif.

For more details circle NED-405 E1 on enclosed inquiry slip

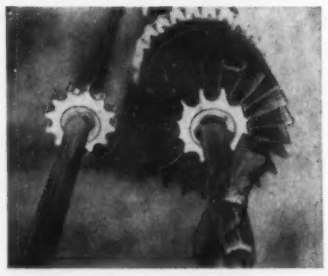
DIELECTRIC TEST SET has fault indicator on each channel



Simultaneous testing of up to ten reels of wire or cable is possible with the Model K3-4Y multiple output dielectric test set. It automatically disconnects the faulty specimen and permits the remainder to remain on test. Set has an independent fault indicator for each channel, an optional timer for timed tests, zero start high voltage on hold pushbutton, and safety door interlock. It is rated at 0 to 3 kv rms and has a 4-kva capacity. Output voltage is continuously adjustable. Ten separate output terminals are behind an interlocked door. Input is 35-amp, 115-v, 60 cycles at full load. The 22 x 15 x 21-in. unit costs $1500. • **Peschel Electronics, Inc.**, R.F.D. 1, Patterson, N. Y.

For more details circle NED-406 E1 on enclosed inquiry slip

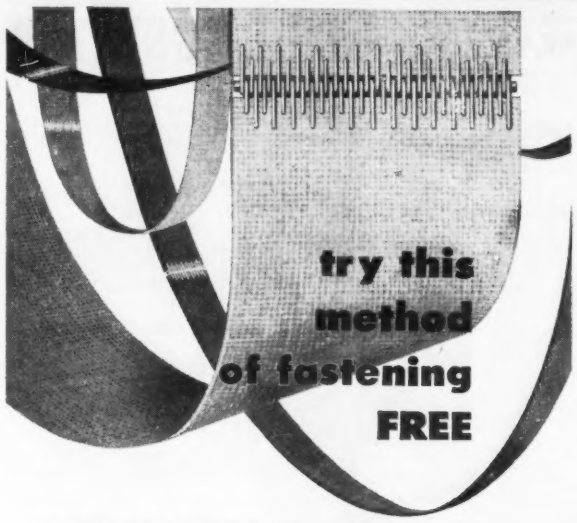
DIRECT CONTACT HEATERS allow high degree of control in gas heating and spray drying



By eliminating intermediate heat transfer surfaces, direct contact heaters afford efficient heat transfer with good temperature control in the heating of gases. Heaters are used in regeneration of desiccants, ammonia synthesis, gas preheating, and high temperature processing. Equipment is also applicable to spray drying in food dehydrating and drug manufacture.

Units employ a Radi-Fin design which uses a V-shaped nickel-chrome ribbon mounted on a star-shaped ceramic piece. Ratings as high as 100 kw can be built into a 6-in. diameter section only 7 ft long. Units can even be designed to fit into existing pipelines. Heaters are used in applications involving temperatures up to 1800° F, and withstand pressures up to 4500 psi. Picture shows basic construction pattern. • **Hynes Electric Heating Co.**, 1063 U. S. Route 22, Mountainside, N. J.

For more details circle NED-407 E1 on enclosed inquiry slip



Searching for new and better methods of belt, apron and ribbon maintenance? Looking for a quicker way to fasten belting and making ends meet? Send a sample of your belting, apron or ribbon to Clipper with an outline of your problem. They'll determine the best method of fastening and then *lace your sample free. Write for details.*

Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids, Michigan

Ask your Industrial Distributor for Clipper Products

For more details circle NED-408 E1 on enclosed inquiry slip

FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

★ AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

★ See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION

3535-H Addison St., Chicago 18, Ill.

For more details circle NED-409 E1 on enclosed inquiry slip

Easiest way to pick orders

Saves time, saves space, cuts costs!

Versarack LIVE STORAGE RACK

the Industrial Dispenser

- Remove front carton—another automatically rolls into place.
- Wheel rails provide finger-tip picking and automatic carton ejection.
- Stock is orderly arranged — no "hunting" for ordered items.
- Consolidates stock into less space — makes best use of "cube".
- Fully adjustable for every package size, style, or weight.

These advantages mean lower costs for you. Get the complete story. Write for brochure #211.

M-H STANDARD CORPORATION

515 Communipaw Ave., Jersey City 4, N. J., HE 3-5834

For more details circle NED-410 E1 on enclosed inquiry slip

More Convenient Than Ever...

- **4 WIDTHS TO FIT EVERY PIPE SIZE**
- **EXCLUSIVE CUTTER-DISPENSER**

Permits proper width selection best suited to the pipe size: ¼" width for pipe to ½", ½" width for pipe from ½" to 2", ¾" width for pipe from 2" to 4" and 1" width for pipe 4" and over.

Exclusive cutter-dispenser* feeds and cuts tape fast and clean. Re-usable clear plastic container accommodates 288" or 576" roll of ¼" or ½" Thred-Tape.

Thred-Tape effectively seals practically any fluid or gas... temperatures from −250° to +500°F., pressures to thousands of pounds. Just cut to size, wrap around threads, make connection.

Send for free sample and full information.

*Pat. pend.

John Crane® CRANE PACKING COMPANY
6411 Oakton St., Morton Grove, Ill. (Chicago Suburb)

For more details circle NED-411 E1 on enclosed inquiry slip

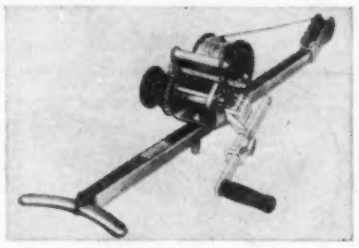
This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because:
• tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

For more details circle NED-412 E1 on enclosed inquiry slip

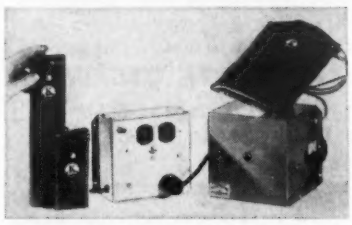
PORTABLE PULLER
strengthened unit has 200-ft cable



Stronger frame, new double reduction winch, heavy-duty bearings, an extra strong pulley-head, and a stronger supporting stub are among improvements made in the Hercules Porta-Puller. The highly versatile unit is equipped with 200 ft of cable, although longer pulls can be made. Bull wheel can be used with both rope and cable. • **Fairfield Industries,** 1 Pier Lane W., Caldwell, N. J.

For more details circle NED-414 E1 on enclosed inquiry slip

RADIO-ACTUATED ALARM
also controls lights and equipment



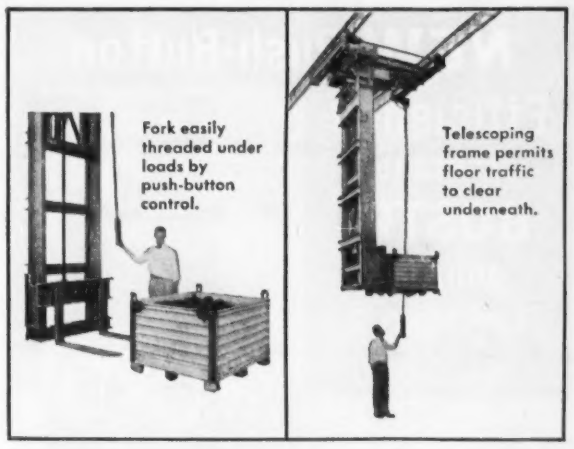
When a button on the pocket-size Port-O-Larm radio transmitter is depressed, a pulsating radio signal is sent to the receiver which causes an alarm to sound locally, remotely, or at a central station. It can also control lights and other electrical equipment. Two transistorized transmitters are available: One (shown at left rear) is 10 in. long, weighs 15 oz, and has a range of 120 ft; smaller unit at left front is 5 in. long, weighs 10 oz, and has a 100-ft range. Both operate on a long life 15-v ac battery. Other components shown are adapter, receiver, and antenna (top). • **Walter Kidde & Co.,** Kidde Ultrasonic & Detection Alarms Div., 675 Main St., Belleville 9, N. J.

For more details circle NED-415 E1 on enclosed inquiry slip

PLATFORM LADDER
side rails are secured to each other

Side rails of improved Type H platform ladder are secured to each other by means of a metal strap hinge. A shorter side rail serves as a brace. Design increases strength, extends life, and allows compact folding and storage of ladder. Platform heights from 4 to 16 ft have an automatically closing 16 x 18-in. platform and a contoured shelf top with cut-out tool holes. Ladder is made of Sitka Spruce and has rubber-tipped shoes, pinch-proof spreaders and step braces, and zinc hardware. • **Dayton Safety Ladder Co.,** Dept. H-604, 2339 Gilbert Ave., Cincinnati, Ohio.

For more details circle NED-416 E1 on enclosed inquiry slip



STACKER CRANES save time

Cleveland Tramrail Stacker Cranes expedite materials handling, promote orderliness and cut costs. Large time savings are made because one man can handle several times more materials per day.

Stackers are available with floor or cab control, telescoping or non-telescoping mast, rotating or non-rotating mast, and other features.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6657 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-417 E1 on enclosed inquiry slip

JOMAC GLOVES GIVE CUT PROTECTION THAT EVEN LEATHER CAN'T

The remarkable cut resistance of Jomac's loop-pile fabric glove is a *plus* that even expensive leather gloves do not provide. Moreover, Jomac gloves offer a better grip on oily surfaces and can be reconditioned time after time.

For maximum hand protection, it's North PVC Gloves. They offer better fit, greater dexterity, more comfort and superior safety in handling chemicals, oils and greases.

To keep outdoor workers dry, comfortable and safe in foul weather, insist on North PVC Wet-Weather Clothing... resistant to most oils, greases and chemicals, tough, flexible, nonaging and waterproof.

WRITE TODAY FOR A FOLDER DESCRIBING THESE PROTECTIVE JOMAC PRODUCTS

JOMAC

Jomac Inc., Dept. G
Philadelphia 38, Pa.

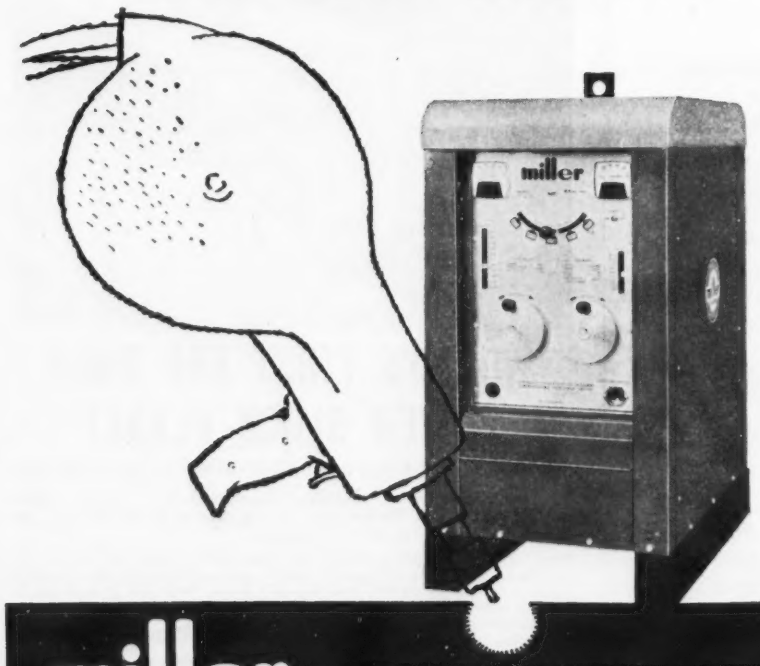
In Canada: James North Canada Company Ltd., Simcoe, Ont.

"Jomac Sells Quality . . . and Quality Sells Jomac!"

For more details circle NED-418 E1 on enclosed inquiry slip

FOR MIG WELDING (using any shielding gas)

it's the Miller CP-2 VS



Swift and solid success of Miller's variable slope d-c constant potential 300 ampere welder and the 500 ampere CP-5 led to the development of the above 200 ampere version. Offered especially for use with recently introduced 200 ampere air-cooled guns having self-contained spools of wire, the CP-2 VS delivers:

Continuous voltage and slope adjustment • Current as low as 15 amps at 10 volts • A constant potential d-c source for heavy MIG work • Slope control with infinite continuous adjustment.

Information available upon request relating to 200 ampere CP-2 VS, 300 ampere CP-3 VS or 500 ampere horizontal model, the CP-5.

miller ELECTRIC MANUFACTURING COMPANY • APPLETON, WISCONSIN
Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

For more details circle NED-413 E1 on enclosed inquiry slip

NEW Push-Button Efficiency COMES TO BOSTIK® ADHESIVE APPLICATOR

This new idea in push-button control makes the BOSTIK Adhesive Applicator the most efficient and easiest way to brush apply adhesives. Gives instant, exact adhesive control.

Other features: Pressure feed saves repeated dipping. Two or five gallon tank. Used with either solvent or water base adhesives. Eight brush styles. Applicator with push-button brush unit and hose assembly is $114.00. Send for complete details.

Bostik® ADHESIVES

BB Chemical Co., 784 Memorial Drive, Cambridge, Massachusetts
Subsidiary of United Shoe Machinery Corporation
BOSTIK IS A REGISTERED TRADEMARK OF BB CHEMICAL COMPANY

For more details circle NED-419 E1 on enclosed inquiry slip

Replacing belts too often?

Ask your local Gates Man to show how Gates Super HC Drives end drive troubles . . .

Because of exclusive design features, Gates Super HC High Capacity V-Belt Drive can often transmit the required power in ½ to ⅔ the space required by a conventional V-belt drive. This means a Super HC Drive can end your V-belt troubles where limited space has made necessary a marginal conventional drive.

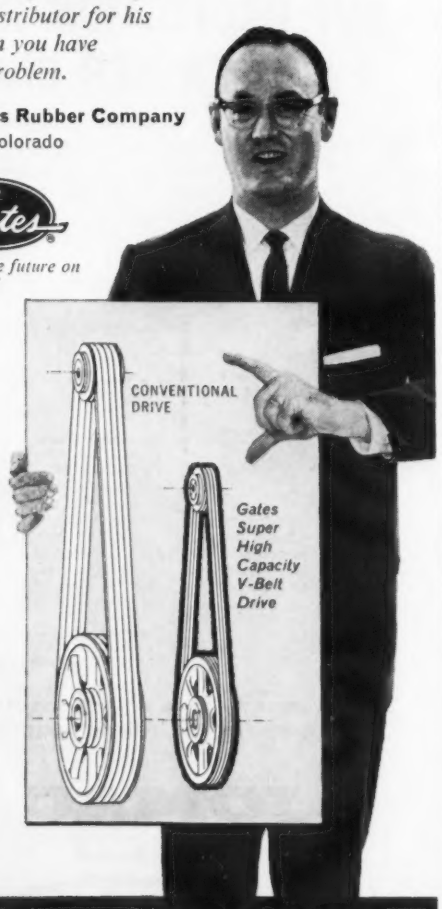
Gates Super HC Drives absorb machine-damaging vibration and shock. Multiple belts assure you of continuous operation, reducing costly machine down-time.

The Gates Man near you is a drive design expert. *Ask your nearby Gates Distributor for his help when you have a drive problem.*

The Gates Rubber Company
Denver, Colorado

Gates®
Building the future on 50 years of progress

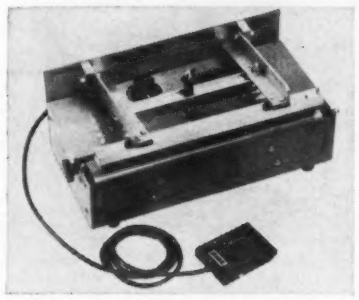
BP-51



Gates Super HC V-Belt Drive

For more details circle NED-420 E1 on enclosed inquiry slip

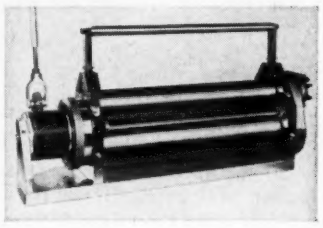
PORTABLE PLASTIC SEALER
handles up to 6-mil polyethylene



Exact temperature is controlled and maintained by the Model 280 automatic Poly Sealer, assuring water and air tight seals without damaging plastic bags. On a continuous cycling operation it seals as fast as the operator can feed the bags. Making individual seals is also possible. The 22-lb sealer measures 8 x 15 in., has 12-in. long jaws, and makes a ⅛-in. wide seal on various plastics, including polyethylene up to 6 mils thick. It is motor operated at a speed of 60 seals per minute. A pressure control is incorporated. • **Cleveland-Detroit Corp.**, Clamco Div., 5400 Brookpark Rd., Cleveland 29, Ohio.

For more details circle NED-421 E1 on enclosed inquiry slip

PRECISION ROLL FEED
handles up to 15-in. wide stock



Synchronized with the operation of the press or equipment on which it is mounted, Series 9 PRF precision roll feed handles stock widths to 15 in., and stroke is adjustable from 0 to 9 in. This reversible feed repeats accurately at speeds up to 200 sfpm. Heavy roll pressure is maintained by spring pressure for nonslip feed. Bell crank is optional. • **Benchmaster Mfg. Co.**, 1835 W. Rosecrans Ave., Gardena, Calif.

For more details circle NED-422 E1 on enclosed inquiry slip

DISPOSABLE WORK CLOTHING
is fire, acid, and grease resistant

Nonwoven material from which line of disposable work clothing is made has the workability of cloth with the disposability of paper. It can be sewn, glued, dyed, and printed and is resistant to most acids and alkalies, fire, oil, and grease. The lightweight material is also dust and water proof. Aprons, sleeves, leggings, jackets, and long coats are among the available clothing items. • **Associated Bag & Apron Co.**, 906 W. Huron St., Chicago 22, Ill.

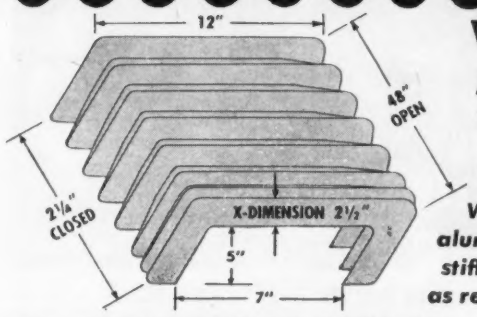
For more details circle NED-423 E1 on enclosed inquiry slip

MINIATURE OSCILLOSCOPE
6-lb unit for training and lab use

Small, yet versatile Primer-Scope Mark I oscilloscope for training, lab, and light industrial use weighs under 6 lb and measures 11¼ x 7¼ x 3½ in. Instrument has a 3-in. Rayonic cathode ray tube with an integral magnetic shield to prevent stray or spurious pickups. Accelerating potential is about 840 v, and trace is bright and sharp. Power supply is a conventional transformer type with outputs of +300 v dc, −300 v dc and −650 v dc, also 6.3 v ac at 1.2 amp and 6.3 v ac at 0.6 amp. Unit operates on 105-125 v ac input and is used for peak voltage measurement, signal wave form observation, equipment trouble-shooting, checking circuit performance, signal tracing, and frequency and phase comparison of two signals. Price is $69.95. • **Waterman Products Co.**, 2445 Emerald St., Philadelphia 25, Pa.

For more details circle NED-424 E1 on enclosed inquiry slip

PROTECTED WAYS



With aluminum stiffeners as required

OIL RESISTANT NEOPRENE

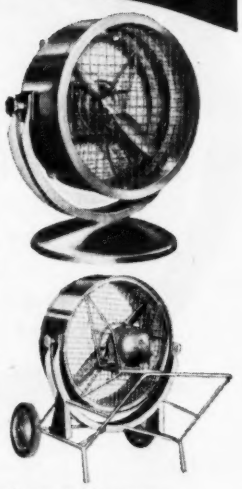
NOTE: 2½" dim. determines the small, 2¼" close. Variations in "X" govern closed lgth.

GORTITE, new, pliable way-protectors for . . . milling machines, grinders, boring bars and other machine tools are fabricated to order from fiberglas and new neoprene-base materials. Ask for new bulletin GW-100. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4, Wis.

BELLOWS . . BOOTS . . SLEEVES . . WAY PROTECTORS

For more details circle NED-425 E1 on enclosed inquiry slip

MOST VERSATILE UTILITY FAN

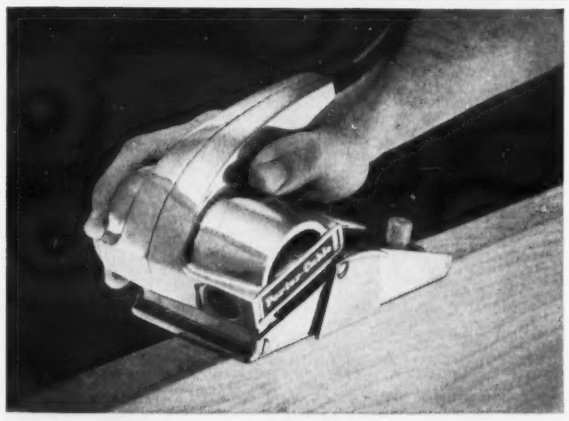


- compact, rugged, reliable
- set it on the floor, suspend it from wall or ceiling
- fan turns freely in a full circle, locks easily and positively in any position
- portable model in sizes from 20" to 36" — wheel model in sizes from 24" to 36"

For details on this amazingly versatile man and materials cooling fan, write for your free copy of Bulletin A-109 or call your nearby Hartzell field office.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio — A member of AMCA

For more details circle NED-426 E1 on enclosed inquiry slip



WORLD'S FIRST AND ONLY POWER BLOCK PLANE!

NEW FROM PORTER-CABLE—NO OTHER PLANE DOES SO MUCH, SO WELL

Planes broad surfaces . . . planes any edge from 2" dressed stock to cupboard doors. Bevels and rabbets, too. A profitable tool, for production line, or plant maintenance.

Model 167 Power Block Plane: Compact, lightweight, fits in palm of one hand. Powerful heavy-duty motor and construction. 21,000-RPM big-capacity steel cutter. Positive belt drive. Bearings grease-sealed for life. Fingertip switch. Plus many more outstanding features. Write for folder and name of your nearest dealer.

PORTER-CABLE MACHINE COMPANY
1125 Marcellus Street, Syracuse, N.Y.

Porter-Cable Quality Power Products

For more details circle NED-427 E1 on enclosed inquiry slip

Speed Tying Operations!

★ Cheaper than String
★ Faster than Tying
★ Sure Grip — no Knots
★ New Measuring Cutter

Cut tying time in half! Hanscom-Ties (colorful plastic or paper covered wire) are the fast, sure way to bundle wires, cords, coils, etc. . . . temporarily and permanently. New Measuring Cutter dispenses faster than ever! Ties are cheaper by the spool (as little as 9 ft. for a penny!)

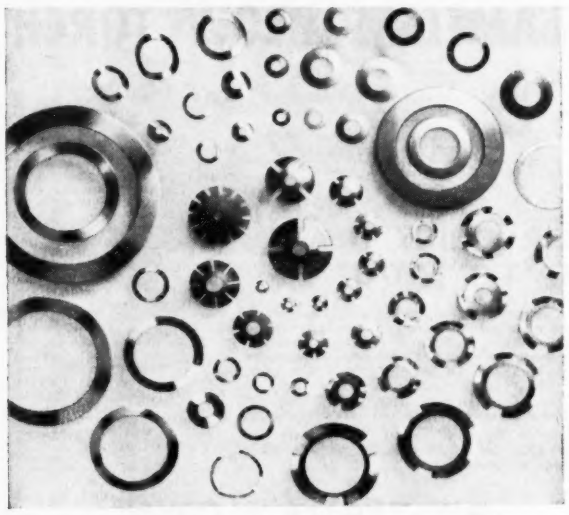
Measuring Cutter
$7.95 Complete

FREE TIE SAMPLES . . . TRY THEM YOURSELF!

Hanscom-Ties CUTTER
Pats. and Pats. Pend.

H. F. HANSCOM & CO., INC., 15 Virginia Ave., Providence 5, R. I., U.S.A.

▲ For more details circle NED-428 E1 on enclosed inquiry slip ▲



Spring Washers

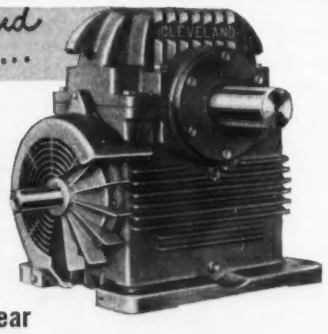
Thousands of tools available for production of your washers—slotted, finger, star, cupped, wavy, etc. Also Belleville washers for use as springs in limited space. Save tool charges. Send for list of tool sizes ready to meet your requirements.

Associated Spring Corporation
General Offices
Bristol, Connecticut

9830

▲ For more details circle NED-429 E1 on enclosed inquiry slip ▲

Designers and Engineers . . .



Check these
SIX IMPORTANT DESIGN FEATURES
found in the NEW FAN-COOLED Cleveland Worm & Gear Speed Reducers

Fan-Cooling . . . provides a smooth, more effective flow of air beneath, above and around all sides of the reducer.

Flamatic-Hardened Worms . . . give maximum thread strength and resistance to wear without sacrificing advantages of a medium hard core.

Centrifugally-Cast Bronze Gears . . . afford a low coefficient of friction while running against a hardened steel worm, insuring increased resistance to wear and fatique pitting.

Large Gear Shaft Diameters and Generously Sized Bearings . . . for handling heavy overhung loads.

Single and Double Reductions . . . single, helical worm and double reduction worm gear reducers are available in sizes from 3" through 12" centers. Ratings range from fractional to 175 HP, ratios from 4:1 to 3600:1.

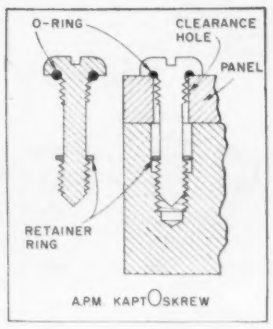
Rugged Finned Housings . . . for maximum strength and heat dissipation. Available in a wide variety of designs for mounting in one position only—avoiding design comprises necessary with universal mount types.

Free, illustrated Bulletin 415 offers additional engineering information — be sure to write for your personal copy, today.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

▲ For more details circle NED-430 E1 on enclosed inquiry slip ▲

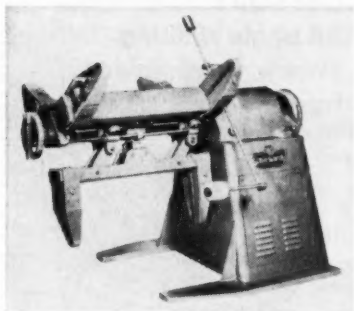
SELF-SEALING FASTENERS
seal pressures of over 500 psi



Grip ring on the blind side of KaptOskrew self-sealing fasteners acts as a retaining device and prevents accidental unscrewing. Screws are made in thread sizes from 2-56 to 1/4-20. Only one length is required for each thread size, but each size accommodates all panels or covers from 1/32 to 1/4 in. thick. Fasteners seal internal and external pressures in excess of 500 psi, and withstand repeated loosening and tightening without loss of seal. Standard pan head screws in stainless steel with silicone rubber O-rings are stocked; other types and materials can be ordered, as can screws without O-rings. • **A. P. M. Corp.**, 41 Honeck St., Englewood, N. J.

▲ For more details circle NED-431 E1 on enclosed inquiry slip ▲

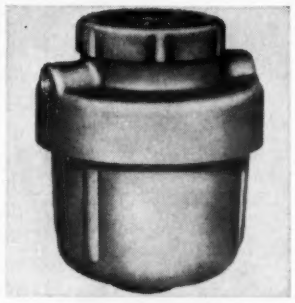
POWERED STOCK REEL
capacity is 2500-lb loads



Loop arm-actuated mercury switch synchronizes the Model 2500-24MB powered stock reel with other equipment. The 2500-lb capacity unit has smooth acting electric disc brakes and automatically centers and balances coils for easy unwinding. Keepers are rapidly adjusted for fast loading. Reel has heavy duty ball bearings on all rotating parts, and is available in 12, 18, and 24-in. stock width sizes with a maximum of 40-in. OD and 20-in. ID and a minimum of 15-in. ID. Motor is 1 1/2 hp, three-phase with on-off switch. • **Cooper Weymouth, Inc.**, 600 Honeyspot Rd., Stratford, Conn.

▲ For more details circle NED-432 E1 on enclosed inquiry slip ▲

MAGNETIC OIL FILTER
cleans up to 5 gpm of fluid



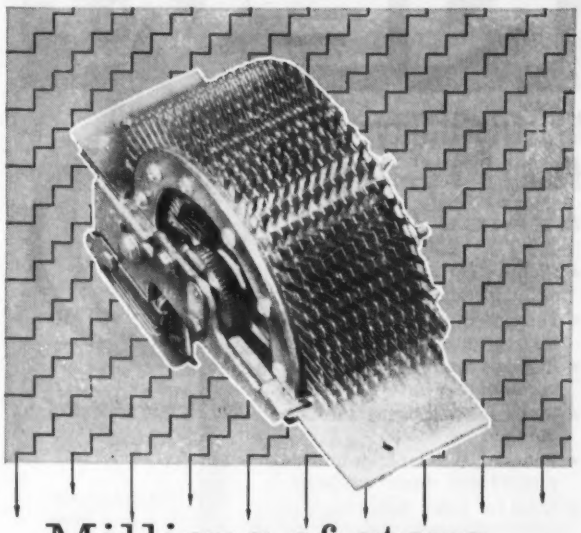
Protection for drilling, reaming, tapping, threading, and burnishing operations, as well as cleaning of all types of coolants, oils, and fluids, is afforded by this No. 5 magnetic oil filter. Permanent magnets in unit remove magnetic particles from liquid. A bayonet lock simplifies removal of the bucket for emptying, and chips are dropped into bucket when a demagnetizing control knob is turned. Price is $137.50. • **Sinclair Machine Products, Inc.**, Claremont, N. H.

▲ For more details circle NED-433 E1 on enclosed inquiry slip ▲

ELECTRONIC LOAD SENSOR
has 5-amp, 115-v output

Using either a clip-on probe or a current transformer connected to one lead of a motor, the Model 683 load sensor will distinguish between no load and partial or full load. Its output relay can be used to operate a counter, pen recorder, or running time meter. Monitoring of machine load time per work shift is possible. With a clip-on probe and demand meter, it senses the pulses furnished to a printing demand meter and operates an alarm before peak demand is exceeded. The transistorized control unit has a maximum input signal of 100 amp and a 5-amp, 115-v output through single-pole double-throw relay contacts. Neon lamps indicate continuity in the relay circuit not energized. The 8 x 6 1/8 x 8-in. unit operates on 115 v, 50-60 cycles, ac. • **Trott Electronics, Inc.**, 412 Smith St., Rochester 6, N. Y.

▲ For more details circle NED-434 E1 on enclosed inquiry slip ▲



Millions of steps... without readjustment
when you use
CLARE
Stepping Switches

Buy them from your nearby CLARE Distributor

Longer life, greater capacity and simplified maintenance are prime features of CLARE stepping switches. These uni-selectors or rotary switches are available in capacities from 10 to 52 points. CLARE stepping switches are compact and ruggedly built. Their multi-pole construction permits several circuits to be switched simultaneously and provides large switching capability in a relatively small package.

IMMEDIATE DELIVERY AT FACTORY PRICES

CLARE stepping switches, mercury-wetted contact relays, Type F relays, Type J relays, sealed contact reed relays and many other standard types are now available from your nearby CLARE distributor. Include CLARE relays in your next order.

Authorized Distributor CLARE RELAYS AND RELATED COMPONENTS

ORDER FROM YOUR NEAREST DISTRIBUTOR

EAST

R & D Supply, Inc.
1492 Highland Ave.
Needham 92, Mass.
Tel: Hillcrest 4-4500

Avnet Electronics Corp.
70 State Street
Westbury, L.I., New York
Tel: Edgewood 3-5800

Electronic Wholesalers, Inc.
1301 Hibiscus Boulevard
P. O. Drawer 1655
Melbourne, Florida
Tel: PA 3-1441

Electronic Wholesalers, Inc.
61 N. E. Ninth Street
Miami 32, Florida
Tel: FR 7-2511

CENTRAL

Relay Sales, Inc.
P. O. Box 186
West Chicago, Illinois
Tel: 231-1100

Srepco, Inc.
314 Leo Street
Dayton 4, Ohio
Tel: Baldwin 6-2546

Pioneer Electronics Supply Co.
2115 Prospect Avenue
Cleveland 15, Ohio
Tel: Superior 1-9411

M G Electronics & Equip. Co.
201-3 South 18th Street
Birmingham 3, Alabama
Tel: FA 2-0449

SOUTHWEST

Engineering Supply Co.
6000 Denton Drive
Dallas 35, Texas
Tel: Fleetwood 7-6121

Engineering Supply Co.
1124 East Fourth Street
Tulsa 10, Oklahoma
Tel: Diamond 3-8121

Harrison Equipment Co., Inc.
1422 San Jacinto St.
Houston 1, Texas
Tel: Capitol 4-9131

Busacker Electronic Equipment Co., Inc.
1216 West Clay Street
Houston 19, Texas
Tel: Jackson 9-4626

Radio Specialties Co., Inc.
6323 Acoma Road, S.E.
Albuquerque, New Mexico
Tel: Amherst 8-3901

Radio Specialties Co., Inc.
209 Penn Avenue
Alamogordo, New Mexico
Tel: Hemlock 7-0370

PACIFIC COAST

Puget Electro Products
3028 First Avenue
Seattle 1, Washington
Tel: Mutual 2-6780

Bell Electronic Corporation
306 E. Alondra
Gardena, California
Tel: Faculty 1-5802

Bell Electronic Corporation
1070 O'Brien Drive
Menlo Park, California
Tel: Pleasant 3-4495

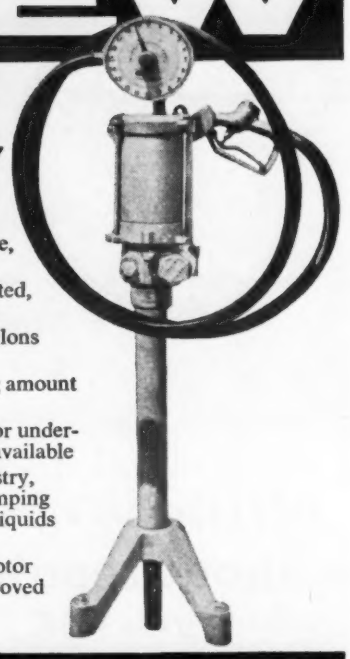
C.P. Clare & Co., 3101 Pratt Blvd., Chicago 45, Illinois

C. P. CLARE & CO.
Relays and Related Control Components

▲ For more details circle NED-435 E1 on enclosed inquiry slip ▲

NEW

Electric Utility Pump SERIES 57



- Lightweight, portable, easily installed
- Permanently-lubricated, no belts, no gears
- Delivers up to 12 gallons per minute
- Meter for measuring amount pumped
- Pedestal, skid tank, or underground tank model available
- Ideal for farm, industry, construction site pumping of fuels, chemicals, liquids of any kind
- Pump, meter and motor assembly is UL approved

JOHN WOOD COMPANY
BENNETT PUMP DIVISION · Muskegon, Michigan

For more details circle NED-436 E1 on enclosed inquiry slip

Meet this specification with a safety factor of... 8

agreement between purchaser and supplier.

2.1.5 Print Position, Side-to-Side
Maximum variation of the distance from the line of center of the bag to a reference point on the imprint shall not exceed ±1/8".

1.6 Print Position, Top-to-Bottom

with GPE Controls WEB GUIDES

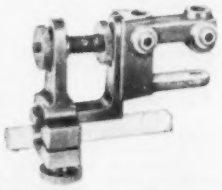
National Flexible Packaging Association specifications for printed bags call for print position variation to be within 1/8". You can meet and beat this specification *with a safety factor of 8 or more*—with Web Guides by GPE Controls!

Photoelectric line guiding for slitters and bag-making machines—and web edge guide for flexographic and gravure presses—help hold specs with *minimum stock size* and *minimum waste*. Practical on-press slitting with assured quality and accuracy.

Unlimited power through hydraulic operation—with either photoelectric or patented non-clogging pneumatic sensing—any web speed—any web width—corrective action by roll shifting or by steering rolls.

You can guide any paper, film, foil, or fabric web better with GPE Controls non-contact web guiding systems. Choose from 43 models for any application.

Photoelectric sensing for edge or printed line



Patented non-clogging pneumatic sensing for web edge

FREE Bulletin EG84 describes 43 GPE Controls Web Guide models.

Send for your copy today!

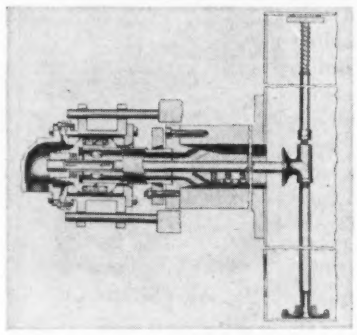
GPE Controls

Subsidiary of GENERAL PRECISION, Inc.

GPE Controls, Inc. • 258 E. Ontario Street • Chicago 11, Ill.

For more details circle NED-437 E1 on enclosed inquiry slip

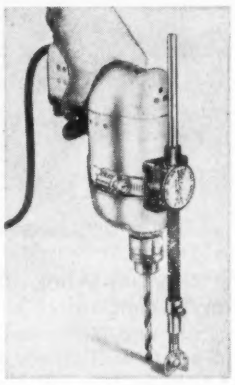
ROTARY SYPHON
drains condensate from dryer rolls



Installed on the dryer rolls of new or existing paper machines, this rotary syphon achieves maximum temperature along the face of the rolls. It evacuates condensate from the rolls and holds the condensate film to a minimum for efficient transfer of heat from the steam to dryer shell. Pick-up fitting can be located at any point along the shell to keep face temperatures uniform. It is easily installed without internal drilling or tapping. Syphon is engineered for installation with the Johnson rotary pressure joint which allows steam to enter the roll and provide a passage for condensate removal. • **Johnson Corp.**, 812 Wood St., Three Rivers, Mich.

For more details circle NED-438 E1 on enclosed inquiry slip

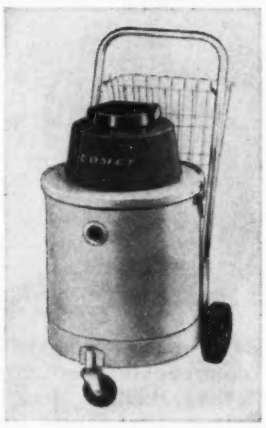
DRILL GUIDE ACCESSORY
aids straight or angle drilling



Holes perpendicular to work surface or at any specified angle are accurately made with any portable drill and this Drill-Guide accessory. It is attached to drill by a clamp which can be left on the drill permanently, ready to receive the drill rod at any time. Two graduated dials control left-and-right and up-and-down positions when properly set. Guide can be used in reaming and countersinking as well. • **Ames Precision Machine Works**, Box 311, Waltham 54, Mass.

For more details circle NED-439 E1 on enclosed inquiry slip

VACUUM CLEANER
low cost model has suds suppressor



The 7, 9, and 12-gal rust inhibiting tanks offered on the Comet low cost vacuum cleaner line have respective capacities of 3, 5, and 7 gal of liquid or 1/2, 2/3, and 1 bu of dry material. All models have a suds suppressor that makes possible maximum pick-up capacity with high foaming detergents. Quickly attached and removed head assembly has a 3/4-hp motor of by-pass or non-by-pass design. An integral water shutoff assembly is provided for wet work. Caster or tricycle base is offered. Options include felt muffler, tool carrier, Microstation Impaction filter for retention of 0.3-micon size dust, and stainless steel tank on the 9-gal size. All units include hose, wand, and kit of tools. • **Kent Co.**, 827 Canal St., Rome, N. Y.

For more details circle NED-440 E1 on enclosed inquiry slip

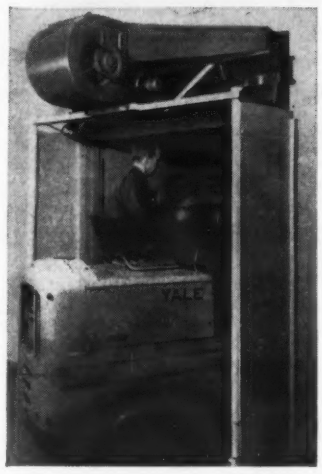
COMPACT SLIDE SWITCH
for instrument, small appliance use

This compact single-pole slide switch for instruments and small appliances has nonwelding solid silver alloy contacts and silver plated rockers, all enclosed in an impact-resistant plastic case. Tinned lugs serve as both solder lugs and male terminals for use with female push-on tabs. Series 1940 and 1952 are rated 10 amp at 250 v ac, whereas Series 1960 and 1962 units are rated 3 amp at 250 v ac. Special ratings are available. All are UL-approved. • **Circle F Mfg. Co.**, 720 Monmouth St., Trenton 4, N. J.

For more details circle NED-441 E1 on enclosed inquiry slip

AIR ISOLATOR*

... opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.



Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON COLD STORAGE DOORS

For more details circle NED-442 E1 on enclosed inquiry slip

FLAMELESS BLOW TORCH

FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-230 V. AC-DC motor, 2 or 3 wire plug, 8 ft. heavy duty cord. Intermittent duty.

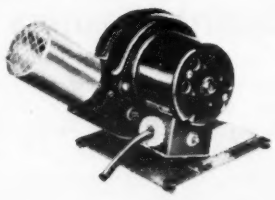
Other models available with lower temp. ranges

Most of the big names in industry use MASTER in laboratories or in production Model 12750—110 volt.

AIR HEATER BLOWER

For quick electrically heated air up to 750° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-230 V. AC only, 2 or 3 wire plug, 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.

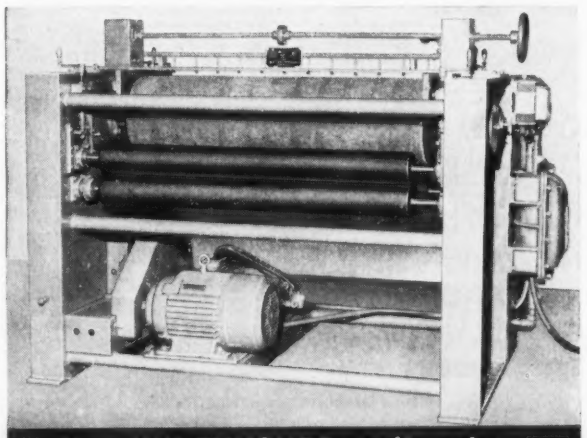
300° F.
500° F.
750° F.



Write today to Dept. 91-E

MASTER Appliance Corp., Racine, Wisconsin

For more details circle NED-443 E1 on enclosed inquiry slip



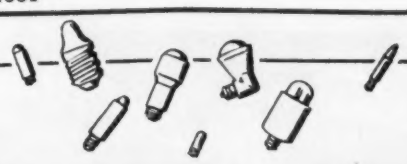
New UNI-FINISHER easily solves many metal polishing problems

The Uni-Finisher is a ruggedly constructed, precision controlled machine employing the recently developed impregnated nylon abrasive roll, or wheel, destined to play an important part in metal polishing and finishing operations everywhere. Roll types and sizes available, and oscillation variable to meet many needs. Handles sheets 6" to 74" wide at speeds up to 60 lineal ft./min. Write us today . . . perhaps a Uni-Finisher can solve your problem.

927 North Detroit Street

THE UNION TOOL CORPORATION
WARSAW, INDIANA

For more details circle NED-444 E1 on enclosed inquiry slip



MINIATURE LAMPS

New catalog shows sizes and electrical characteristics of 14 types

Miniature lamps designed by us for medical instruments and industrial inspection lights. Hundreds of other uses for these brilliant, durable lamps with their exceptionally clear, shadow-free light. New catalog shows each in actual size, gives essential dimensions and electrical characteristics of each.

FREE — WRITE FOR IT TODAY

Welch Allyn, Inc., 10 Jordan Rd., Skaneateles Falls, N. Y.

Same catalog shows complete line of Welch Allyn inspection lights, battery handles, transformers. Get your copy now.

WELCH ALLYN LIGHTS THE WAY

For more details circle NED-445 E1 on enclosed inquiry slip

Handy Tube Bender

Smoothly Bends ANY Pipe or Tubing

3/8" to 1 1/8" O. D.

Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset—every time. Eliminate need for els. No more guesses—no kinks! Save enough time, labor and money on ONE job to pay for your Handy Tube Bender.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
480 N. Willow Rd. • Evansville, Ind.

For more details circle NED-446 E1 on enclosed inquiry slip

BIRD DAMAGE USED TO COST MILLIONS

NEW MARK IX

BIRD REPELLER

360° REVOLVING LIGHT BEAMS
rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

Write for free literature

TRIPP LITE

Famous Since 1922
Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

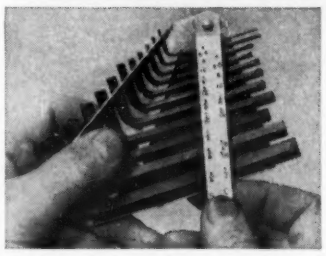
For more details circle NED-447 E1 on enclosed inquiry slip

NUCLEAR THICKNESS GAGES
for laboratory and pilot plant use

Accurate indication or recording of the thickness of sheet materials up to 12 in. wide is made by Model LBKR, LBSR, and LBMS beta radiation nuclear thickness gages. Only 22 in. long and portable, they measure the thickness or density of glass, steel, aluminum, paper, plastic film, coated materials, and rubber in laboratory and pilot plant applications. Another use is screening out of oversize steel or aluminum sheets being fed into dies. Krypton 85 radiation source is used for very thin materials, and full scale spans as narrow as 0.004 in. of paper and 0.002 in. of aluminum are obtainable. With Strontium 90, minimum thicknesses are 0.02 in. for paper, 0.008 in. for aluminum, and 0.0025 in. for steel. Ohmart cell is employed for conversion of transmitted radiation to electricity. • **Ohmart Corp.**, 2236 Bogen St., Cincinnati 22, Ohio.

For more details circle NED-448 E1 on enclosed inquiry slip

HEXAGON KEY HOLDER
locking lever shows sizes



Hexagon key wrenches are kept together in this compact wrench holder to prevent their loss and simplify finding them in a tool box. Sizes for both cap and set screws are clearly marked on the locking lever which holds them in place. Price of wrench holder without keys is 30 cents, or 25 cents in quantities of 100 or more. • **Phoenix Gage Co.**, Phoenix, N. Y.

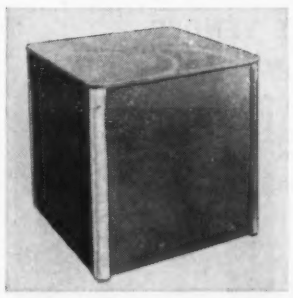
For more details circle NED-449 E1 on enclosed inquiry slip

CABLE & HOSE PROTECTOR
for Mig and Tig welding equipment

Costly replacement and repair of hoses and cables used in Mig and Tig welding are virtually eliminated by use of this neoprene coated sleeve type protector. Offered in lengths to fit 9, 12½, and 25-ft standard cable sizes, it has a zipper for easy application. It affords protection against damage caused by falling objects, trucks, kicking, and normal deterioration. • **Singer Glove Mfg. Co.**, Special Products Div., 860 W. Weed St., Chicago 22, Ill.

For more details circle NED-450 E1 on enclosed inquiry slip

MACHINE BASE—TOOL STAND
made in wide variety of sizes



Basic Omni-Base multipurpose heavy duty machine base or tool stand is made up of four steel panels, four extruded aluminum legs of Stress-Lock design, and a top plate of ground or unground aluminum or steel. Sizes range from 24 x 24 x 24 in. in 1-in. increments to 60 x 60 x 60 in. Louvered panels are made in single rows from 24 to 34 in. wide and double rows from 35 to 60 in. Plain panels, knee-hole panels for bench or counter work, electric control panel, and a door panel are available. Panel styling may be interchanged at any time. Assembled without hole drilling or welding, the unit will support a 20,000-lb static load. Uses include assembly, automation machinery, service counters, tool stands, and machine, pump, or motor enclosures. • **Marvco Tool & Mfg. Co.**, 3831 Podlin Dr., Franklin Park 3, Ill.

For more details circle NED-451 E1 on enclosed inquiry slip

BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

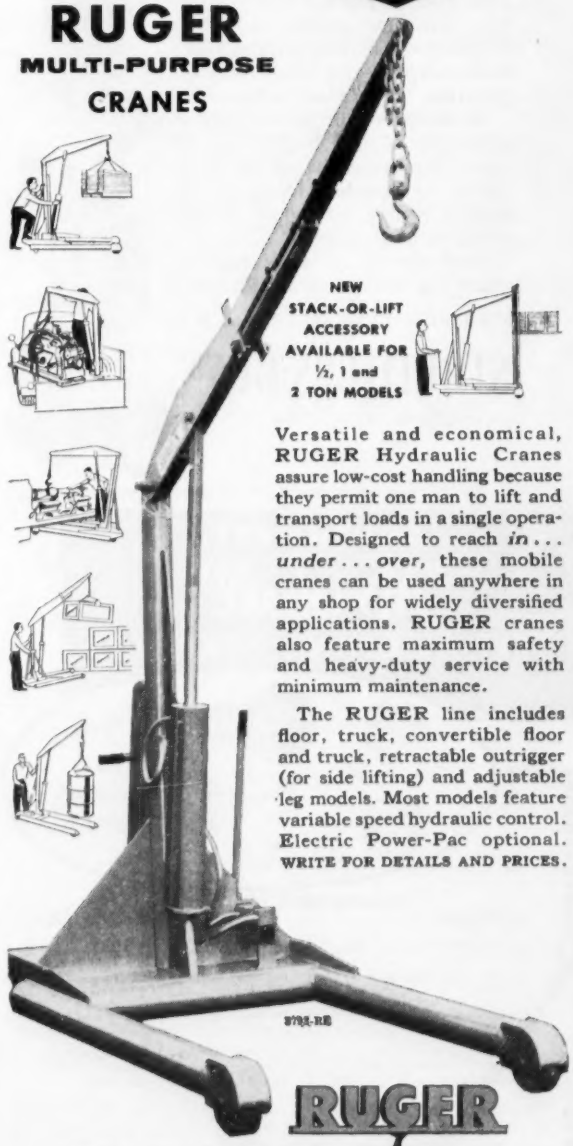
B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-452 E1 on enclosed inquiry slip

FOR LIFTING POWER
where and when you need it . . .

specify
RUGER
MULTI-PURPOSE CRANES



NEW STACK-OR-LIFT ACCESSORY AVAILABLE FOR ½, 1 and 2 TON MODELS

Versatile and economical, RUGER Hydraulic Cranes assure low-cost handling because they permit one man to lift and transport loads in a single operation. Designed to reach *in . . . under . . . over,* these mobile cranes can be used anywhere in any shop for widely diversified applications. RUGER cranes also feature maximum safety and heavy-duty service with minimum maintenance.

The RUGER line includes floor, truck, convertible floor and truck, retractable outrigger (for side lifting) and adjustable leg models. Most models feature variable speed hydraulic control. Electric Power-Pac optional. **WRITE FOR DETAILS AND PRICES.**

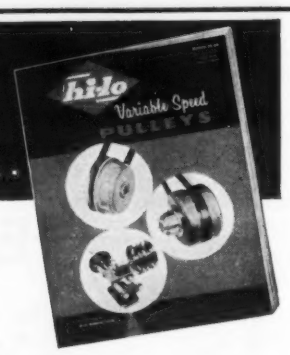
RUGER

The crane with 1000 uses capacities ¼ to 3 ton

RUGER EQUIPMENT, INC.
619 West Fourth Street, Uhrichsville, Ohio

For more details circle NED-453 E1 on enclosed inquiry slip

Whatever Your Vari-Speed Requirements . . .



hi-lo has the answer . . .

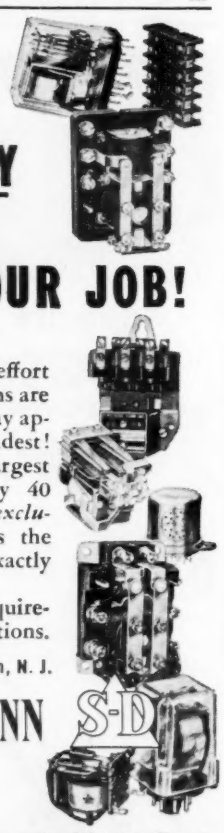
- Variable Speed Pulleys—exclusive cam and cam follower feature assures constant speed regardless of load variations
- Ratios to 3 to 1, fractional to 5 hp.
- Hi-Ratio variable speed pulleys for economy and exceptional efficiency at ratios up to 7 to 1
- Dual Ratio Compound Drives
- Motor Bases and Motor Frames
- Wide V-Belt Sheaves and Wide Variable Speed Belts

You'll find the answer to any vari-speed application in Hi-Lo's complete line. Ask for recommendations. Request Bulletin H-61.

Manufactured By HI-LO MANUFACTURING COMPANY
affiliate of LOVEJOY FLEXIBLE COUPLING COMPANY
4953-H West Lake St., Chicago 44, Ill.

For more details circle NED-454 E1 on enclosed inquiry slip

HOW TO GET EXACTLY THE RIGHT RELAY FOR YOUR JOB!



You save time, money and effort by going where relay selections are most complete and where relay application "know how" is broadest!

As makers of the world's largest relay line — and backed by 40 years' experience in relays *exclusively* — Struthers-Dunn is the logical source of types exactly fitted to your needs.

Send details of your requirements for relay recommendations.

STRUTHERS-DUNN, INC., Pitman, N. J.

STRUTHERS-DUNN
5,348 RELAY TYPES

For more details circle NED-455 E1 on enclosed inquiry slip

SOUTHWEST "Monoball" SELF-ALIGNING BEARINGS

CHARACTERISTICS

ANALYSIS	RECOMMENDED USE
1 Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2 Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3 Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.
4 "Dyflon"® Plastic Alloy Inserts. CRES Ball and Race. Chrome Alloy Steels.	For types operating under rotational, high radial loads and long cycle life where lubrication is impossible.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Our engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. Write for Engineering Manual No. 551. Address Dept. NED-61

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

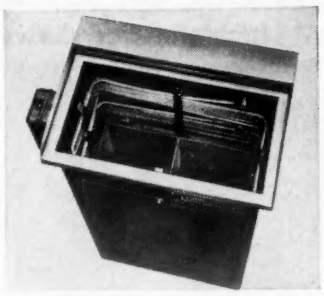
For more details circle NED-456 E1 on enclosed inquiry slip

SELF-ADHESIVE NAMEPLATES
two types on dispensing cards

Aluminum foil and polyvinyl chloride self-adhesive nameplates are available in any quantity, even as few as 100 at a time, without short-run penalty. They are mounted on Zip-Strip dispenser cards for fast, easy application, and are made to order with any wording, trademark or illustration in any size. Debossed aluminum foil type is permanent; resists solvents, oil, dirt, and heat up to 350° F; and cannot be removed and reapplied without evidence of tampering. The 6-mil thick vinyl nameplates for permanent color identification conform to any surface contour. Printing is unaffected by oil, moisture, abrasion, or weather. • **W. H. Brady Co.**, Dept. 702, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-457 E1 on enclosed inquiry slip

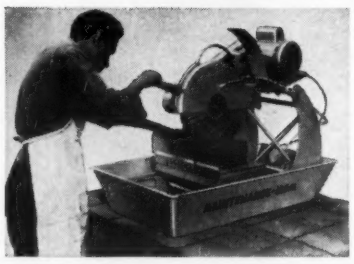
PARTS DRYING MACHINE
intricate parts are dried stainfree



Intricately shaped metal parts are dried stainfree after aqueous finishing operations by the Trisec spotless dryer. Process involves the use of Trisec, a special drying solvent containing trichloroethylene, in a drying machine that outwardly resembles a liquid-liquid-vapor degreaser. It can be used for glass, ceramic, and metal parts with small cracks and crevices as well as stampings, extrusions, castings, tubes, wire and strip following electroplating, bright pickling, phosphating, contour etching, and alkaline derusting. • **Phillips Mfg. Co.**, 3475 W. Touhy Ave., Chicago 45, Ill.

For more details circle NED-458 E1 on enclosed inquiry slip

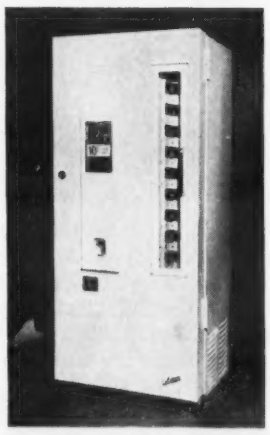
MASONRY SAW
lightweight unit is portable



Weighing only 110 lb with motor and head, the compact Maintenance - Man Jr. portable masonry saw uses either diamond or abrasive blades with diameters up to 14 in. It cuts wet using an independent submersible coolant pump in a steel tray, or dry with or without the tray. Blade height may be locked for diamond blade cutting or raised and lowered by handle for rocking cuts. Dual voltage switch permits motor use on 110 or 220 v ac. Table measures 14 x 16 in. and has 15-in. travel. Price with 1½-hp motor is $295 and $330 with 2-hp motor. Both are totally enclosed and fan cooled. • **Felker Mfg. Co.**, 1128 Border Ave., Torrance, Calif.

For more details circle NED-459 E1 on enclosed inquiry slip

SELECTIVE BEVERAGE VENDER
can be equipped with coin changer



Model EC-81 upright selective beverage vending machine is capable of dispensing 81 eight-ounce bottles and holds another 28 bottles in its precool section. The economy model is 61½ in. high and uses 3.7 sq ft of floor space. The 1/5-hp hermetic compressor assembly can be changed in a few minutes if necessary. Vender is available in a variety of colors and can be provided with any denomination sale mechanism and a coin changer. • **La Crosse Cooler Co.**, Vending Machine Div., 2809 Losey Blvd. S., La Crosse, Wis.

For more details circle NED-460 E1 on enclosed inquiry slip

Machine Screws & Nuts • Tapping Screws • Stove Bolts • Drive Screws • Carriage Bolts
Continuous Threaded Studs • Wood Screws • Hanger Bolts • Dowel Screws • Speaker Screws

Manufacturing and Main Stock in Statesville, N.C. Warehouses: New York • Chicago • Dallas • Los Angeles

For more details circle NED-461 E1 on enclosed inquiry slip

Tempilstik° temperature indicating crayons*

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

For more details circle NED-462 E1 on enclosed inquiry slip

A BETTER CLOSURE for SMALL PAPER BAGS

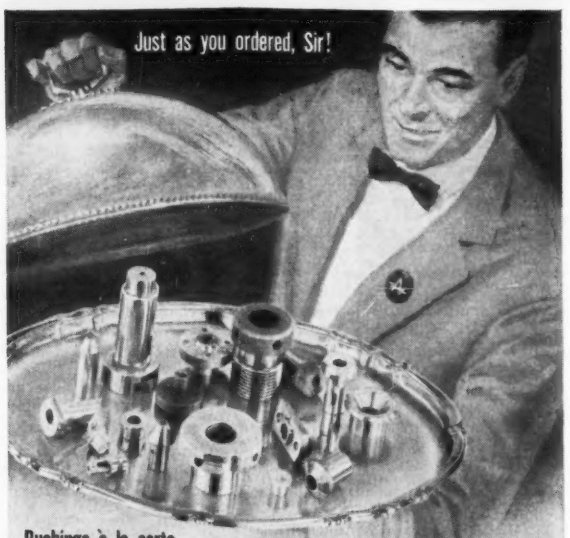
UNION SPECIAL'S *Style 60000 D* Bag Closing Machine, producing the exclusive Dubl-Tape closure, is designed to speed packaging . . . cut costs . . . and improve appearance.

- **FAST—Speed to match output of standard filling and weighing equipment.**
- **NEAT—Produces an eye-pleasing, sales-stimulating package with high merchandising value.**
- **ECONOMICAL—Operating cost per bag is at a minimum . . . uses inexpensive cotton thread and paper tape.**
- **VERSATILE—Adjustable for a wide range of bag sizes, short or long runs.**

Write for BULLETIN No. 100 to get the complete facts on this machine . . . and how it can do a better closing job for you.

Union Special® MACHINE COMPANY
FINEST QUALITY
416 N. Franklin St., Chicago 10, Ill.
BAG CLOSING MACHINES

For more details circle NED-463 E1 on enclosed inquiry slip



Bushings à la carte Special bushing short orders! All sizes, shapes, types, quantities. American's staff of experienced engineers is ever ready to give help on any special bushing problem. In addition to start-from-scratch designs we stock complete inventories of semi-finished bushings. They are ready to be ground to order and shipped pronto. And American's complete manufacturing facilities assure absolute guaranteed precision on every bushing delivered. It's no accident that American is the world's largest producer of drill jig bushings, both standard and special. Above is an entree of specials we have served customers in the past. What will YOUR order be?

Visit our booth, No. 2022, at the ASTME TOOL SHOW, May 22-26.

American DRILL BUSHING CO. 5107 PACIFIC BLVD., LOS ANGELES 58, CALIFORNIA
TELEPHONE LUdlow 3-1122 / TWX 1315 / FAX LOS ANGELES

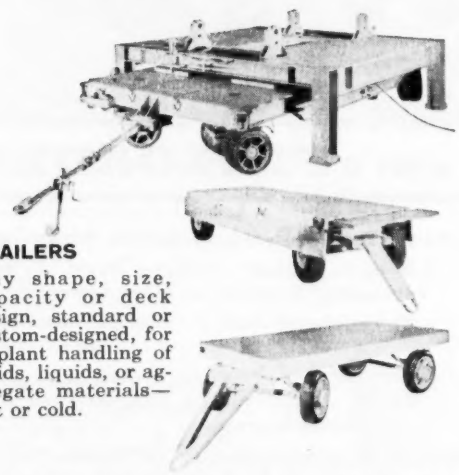
WORLD'S LARGEST INVENTORY OF PRECISION DRILL JIG BUSHINGS

Write for free catalog

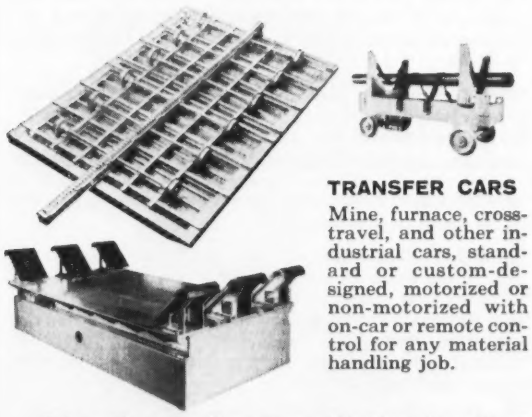
For more details circle NED-464 E1 on enclosed inquiry slip

Here's How . . .

SALEM-BROSIUS Can Help Solve Your Handling Problems



TRAILERS
Any shape, size, capacity or deck design, standard or custom-designed, for in-plant handling of solids, liquids, or aggregate materials—hot or cold.



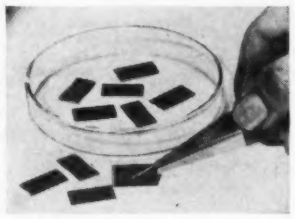
TRANSFER CARS
Mine, furnace, cross-travel, and other industrial cars, standard or custom-designed, motorized or non-motorized with on-car or remote control for any material handling job.

Salem-Brosius offers a complete line of standard and custom-designed, heavy-duty rubber-tired and track-type rolling equipment for those really tough in-plant material handling jobs, involving anything from liquid metals to cold billets or aggregate. The Salem-Brosius catalog will show you typical products that will help you do those jobs quickly, easily and economically. Write for a copy today.

Salem-Brosius, Inc.
P. O. BOX 2222 PITTSBURGH 30, PA.

For more details circle NED-465 E1 on enclosed inquiry slip

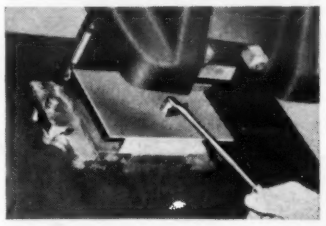
SOLAR CELLS
convert light to electricity



Light-converting silicon solar cells which provide electrical power are now made with a number of secondary collector strips protruding from the main or primary strip. This design affords better collection of current from the active cell area. Called "gridded" cells because the collectors form a grid network over the active area of the semiconductor devices, they now have conversion efficiencies as high as 13 per cent. Price is $2 to $6 in 1 to 99 quantities, depending upon efficiency. • **International Rectifier Corp.**, 1521 E. Grand Ave., El Segundo, Calif.

For more details circle NED-466 E1 on enclosed inquiry slip

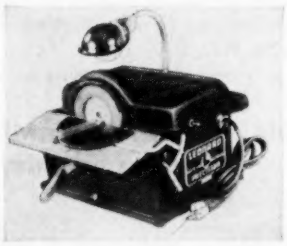
MAGNETIC PRESS FEEDER
handles up to 10-lb blanks and parts



Having no moving parts, PFM press feeding magnet uses a fixed cam plate which allows magnetic contact to be broken while holding a steel blank, stamping, or part in place. Release is by a twist of the user's wrist. Featured are easy-grip handle and thin wall tube shaft. Model No. 1 has an over-all length of 12 in. and a single permanent magnet capable of picking up 5 lb. Model No. 2 is 14 in. long and its double magnet lifts 10 lb. • **Magni-Power Co.**, Box 122, Wooster, Ohio.

For more details circle NED-467 E1 on enclosed inquiry slip

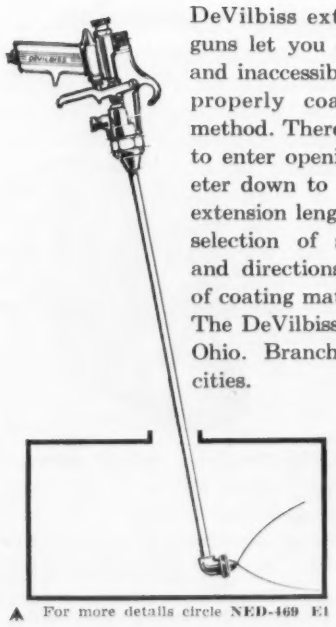
TOOL GRINDER-FINISHER
uses quick-change ring-type wheels



Alnico magnets in the head hold ring type grinding wheels firmly in this single head Grind-R-Lap tool grinder and finisher for carbide, high-speed steel, and ceramic tools. Wheels can be instantly changed with fingers only. Wide base protractor has pivot bar which rotates 180 degrees, sets, and locks at any angle. Placed against the pivot bar, tool is automatically in position for the lapping operation. Head revolves with an oscillating pendulum motion, moving the wheel with a three-directional stroke across the tool face. Dial at side of machine shows degree of table tilt. Price is $295. • **Leonard Precision Products Co.**, 9200 Bolsa Ave., Santa Ana, Calif.

For more details circle NED-468 E1 on enclosed inquiry slip

EXTENSION-NOZZLE solves problem of coating internal surfaces



DeVilbiss extended-nozzle spray guns let you spray inside surfaces and inaccessible spots that *can't* be properly coated by any other method. There are standard models to enter openings from 3" in diameter down to ¼" in diameter, with extension lengths up to 6 ft., and a selection of spray-pattern shapes and directions of spray. All types of coating materials can be applied. The DeVilbiss Company, Toledo 1, Ohio. Branch offices in principal cities.

FOR TOTAL SERVICE, CALL DEVILBISS

For more details circle NED-469 E1 on enclosed inquiry slip

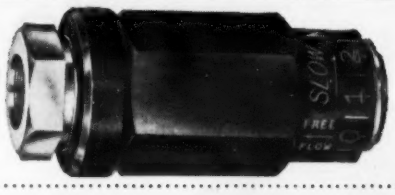
POTDEVIN Label Paster

Time savings of 30% and more with unskilled operators makes your POTDEVIN Label Paster quickly pay for itself. No adjustments required for varied shaped labels. Accurate control of adhesive minimizes waste and assures clean, neat labeling.

Available in 6", 8½", 12" and 18" widths.

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

For more details circle NED-470 E1 on enclosed inquiry slip



Replaces LARGER valves

NEW MEAD DYNA-TROL flow-regulating valve
(EXTRA PRECISION IN LOW FLOW RANGE)

SAVINGS: Substitute a MEAD DYNA-TROL ⅛" valve for a more costly ¼" valve. Use a MEAD ¼" valve for a ⅜" valve, and so on up the scale. Flow equals full pipe area in both directions.

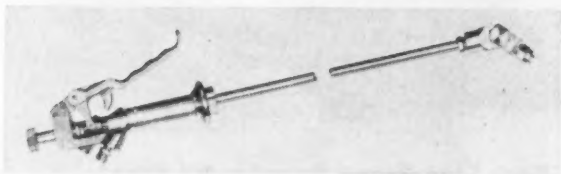
PRECISION: First 360° turn of adjusting sleeve increases flow from zero to about 10% of potential, for extreme exactness in low flow range.

ASK YOUR MEAD MAN about 24-hour service on most MEAD products . . . 48 hours on special orders.

PRODUCTS FOR AUTOMATION
MEAD
FLUID DYNAMICS
A DIVISION OF MEAD SPECIALTIES CO.
4114 N. KNOX AVE., Dept. 1251, CHICAGO 41, ILL.

For more details circle NED-471 E1 on enclosed inquiry slip

LONG-REACH SPRAY GUNS speed painting of ceilings, walls, hard-to-reach areas



DeVilbiss pole guns let painters reach high areas without using scaffolding—or low areas without bending or stooping. Ideal for normal-height ceilings, walls, structural steel, ductwork, bridges, storage tanks, railroad cars. Conventional-spray model using atomization air comes in 4-ft., 6-ft., and 8-ft. lengths. Airless-spray pole gun comes in 4-ft. and 6-ft. lengths. Also models for spray-applying roof coatings and similar materials.

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

FOR TOTAL SERVICE, CALL DEVILBISS

For more details circle NED-472 E1 on enclosed inquiry slip

Looking For A Way to cut small parts handling costs?

EEZY-STAK® BASKETS STOP EXTRA HANDLING, SPEED PARTS PROCESSING . . . REDUCE COSTS!

Here's how one manufacturer solved costly, time-consuming, small parts handling. Using EEZY-STAK standard wire baskets, a complete series of parts transfer operations was eliminated. Result: Five production processes now performed in one basket—degreasing, drying, pickling, rinsing, cyaniding—plus storage, *without parts removal!*

EEZY-STAK baskets have the exclusive, patented *interlock* handle, for easy stacking and compact storage. Open mesh construction Full visibility . . . quick drainage . . . clean! From initial production to final assembly, EEZY-STAK baskets put small parts handling on an economical, low-cost basis. Cut Costs! Investigate the advantages of EEZY-STAK baskets for *your* plant!

Write today for Bulletin No. B-54 to Wire & Iron Products Inc., 1724 Sixteenth Street, Detroit 16, Michigan.

WIPCO

▲ For more details circle NED-473 E1 on enclosed inquiry slip ▲

LOOK

IT'S LOCKED FOR SAFETY!

PUNCH-LOK HOSE CLAMPS

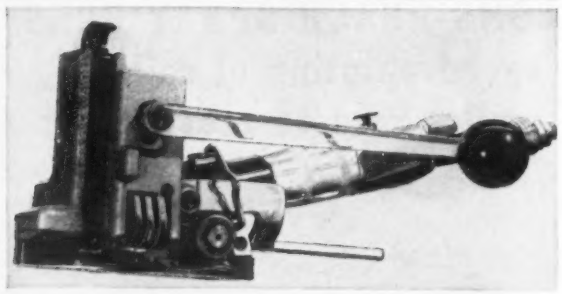
Today's best bet for clean, no-snag, no-leak, connections

See your nearby Punch-Lok distributor or write to:

PUNCH-LOK COMPANY
Dept. A, 321 N. Justine, Chicago 3

9961

▲ For more details circle NED-474 E1 on enclosed inquiry slip ▲



New Flat Strap Pneumatic Stretcher Tensions, Seals and Cuts Strap in Less Than a Second

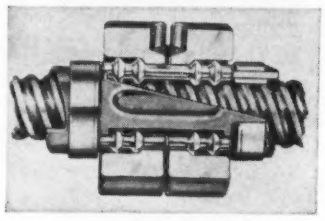
This tool will tension, seal and cut properly applied flat strap in less than a second. Fast, easy strap loading. Seals feed automatically. Operating handle completes seal and cuts strap. Tool weighs only 12½ lbs. Built-in suspension brackets for fast, easy handling. Demand to see this tool. *Full details.* Circle the reader service card, or write:

A. J. GERRARD & COMPANY / STRAPPING MATERIALS

410 East Touhy Avenue • DES PLAINES, ILLINOIS

▲ For more details circle NED-475 E1 on enclosed inquiry slip ▲

ANTIFRICTION BEARING SCREWS
linear actuators made in two types



Variety of operating characteristics and linear advancements in the same screw lead is offered by the Roton antifriction bearing screw. The linear actuator is made in two basic types for hand or power operated products. Planetary drive type provides a mechanical reduction of linear advancement relative to the screw lead, making the unit available for mechanical advantage or speed reduction or both. "Freewheeling" motion at the end of travel protects the bearing screw assembly, motor, and intervening gears and drive pins. Positive type drive assembly produces constant positive linear advancement for applications requiring a fixed relationship between linear advancement and input revolutions. It is adaptable to multiple screw applications requiring synchronized advancements. • **Anderson Co.**, Roton Products Div., 1075 Grant St., Gary 40, Ind.

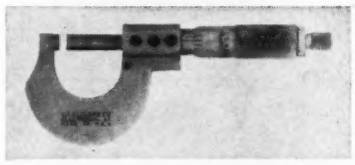
▲ For more details circle NED-476 E1 on enclosed inquiry slip ▲

COMPRESSED AIR DRYERS
three new sizes added to line

Low dewpoint air of sterile, nontoxic quality is delivered by Van-Air compressed air dryers which extract water, vapors, acid fumes, and foreign particles. Three new sizes added to line are included in 40 capacities from 7.5 to 11,080 cfm at 100 psi. Dryers operate without heat, power, or regeneration, and can be installed outdoors. • **Van Products Co.**, 5766 Swanville Rd., Erie, Pa.

▲ For more details circle NED-477 E1 on enclosed inquiry slip ▲

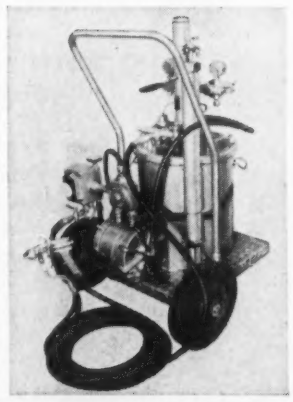
DIRECT READING MICROMETER
windows magnify the digits



Highly accurate and fast to use, the Speedmike direct reading micrometer has a finished satin chrome frame with vernier for reading to ten-thousandths. Other features include protective windows which magnify the digits, tapered frame, lapped anvil and spindle faces, adjusting nut which maintains correct setting, and large spindle and anvil area. Options are a friction stop, spherical ends, carbide-tipped anvil and spindle, 60-degree points, rounded anvil, and ½-in. diameter discs. Due to manufacturing economies, micrometer sells for only $31. • **J. T. Slocomb Co.**, 68 Matson Hill Rd., South Glastonbury, Conn.

▲ For more details circle NED-478 E1 on enclosed inquiry slip ▲

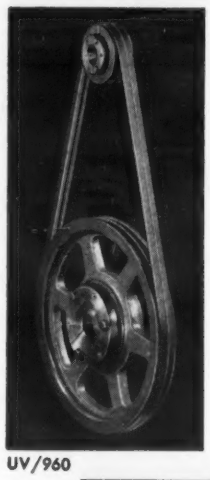
HOT SPRAY UNIT
handles highly abrasive materials



Wide range of temperature control for one or two guns and hose lengths from 10 to 60 ft are provided by Chieftain Series II hot spray unit. A Pressurematic heater maintains a uniform selected temperature at the gun. Two-coat thickness is obtained with a single spraying pass without runs or sags. The double action divorced design pump hot sprays all materials from clear to highly abrasive. Heated material is constantly recirculated without return to the main supply. An external temperature control is optional. Fixed and mobile models are available for spray booth or field work. • **Spee-Flo Co.**, 6614 Harrisburg Blvd., Houston 11, Tex.

▲ For more details circle NED-479 E1 on enclosed inquiry slip ▲

NEW WOOD'S ULTRA-V DRIVES OFFER TREMENDOUS SAVINGS!



UV/960

Wood's new Ultra-V Drives offer tremendous savings over conventional v-belt drives . . . up to 50% in space, 27% in weight, 30% and more in costs. And there are savings on bearings, bases and housings. New, greatly improved belt materials and new belt construction assure unmatched dimensional stability, amazing strength, greater grip, added support and equalized load for tension members. New, high performance, Ultra-V Sheaves have smaller diameters, less width, less weight and tremendous strength, are equipped with famous "Sure-Grip" Bushings.

Wood's *write for bulletin 9102*

T. B. WOOD'S SONS COMPANY CHAMBERSBURG, PA.
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

▲ For more details circle NED-480 E1 on enclosed inquiry slip ▲

Ease the profit squeeze

with a PAYLOADER®

Owner reports 3 Money-Saving Advantages:

Security Engineering of Dallas, Texas says their "PAYLOADER" tractor-shovel enabled them to:

1. *Cut manpower needs for material handling by 70%.*
2. *Save time and demurrage charges.*
3. *Devise a simple perpetual inventory system for the entire storage yard.*

Security Engineering Division of Dresser Industries manufactures drill bits and special equipment for use in the petroleum industry. Forgings arriving regularly in freight cars must be unloaded and delivered to outdoor stockpiles . . . later, from stock to shop.

Wins Competitive Test—A Model H-25 "PAYLOADER" was selected to do this work after it easily outperformed a competitive machine in an on-job demonstration. In unloading forgings, it easily maneuvers in and out of cars, getting loads that average 1,800 to 1,900 lbs. It has unloaded as many as three cars (180 tons) in one work shift.

Safe, Easy Operation — The "PAYLOADER" operator says he particularly likes the H-25's automatic transmission with matched torque converter. It allows him to crowd into a pile of forgings without worrying about damaging the loader. He also likes the roll-back bucket feature at ground level and easy power steering.

There's No Limit to the usefulness of a "PAYLOADER" for protection against the squeeze on profits. For any bulk handling, indoors or outdoors, there is a *proven* "PAYLOADER" to do the job — 20 models in 8 capacity ranges, up to 12,000 lbs. And, they are backed by a large network of experienced distributors. Contact your distributor, or write us.

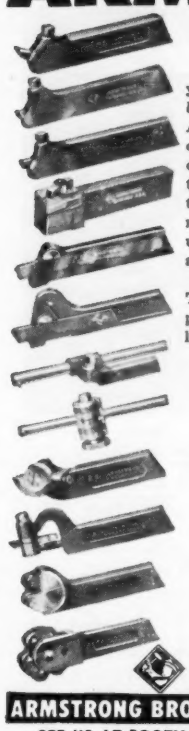
5-A-5

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY – INTERNATIONAL HARVESTER COMPANY

▲ For more details circle NED-481 E1 on enclosed inquiry slip ▲

ARMSTRONG
TOOL HOLDERS



A Correct Tool for Every Lathe Operation

You can save time (and money) by ensuring that your machine tools are equipped with *adequate numbers* of the correct ARMSTRONG Tool Holders. The ARMSTRONG System of Tool Holders includes correctly designed tools for *every* standard operation on lathes, shapers, and planers, and for many operations on turret lathes and screw machines. By utilizing the ARMSTRONG System of Tool Holders, you can reduce tooling costs, eliminate down time in tooling up, operate your machine tools at maximum feeds and speeds.

ARMSTRONG Tool Holders are long-lasting tools. They are strong beyond need, handy and efficient, profitable to use, and are readily available from your local ARMSTRONG Distributor.

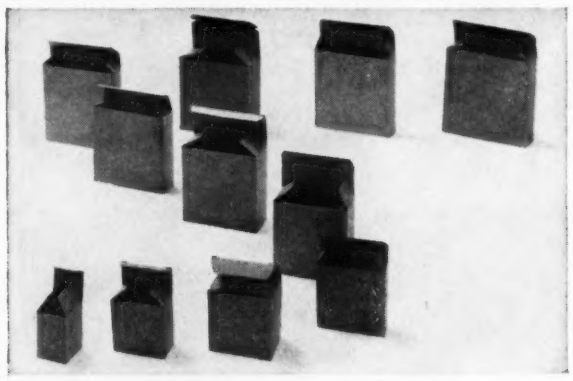
Check over your ARMSTRONG Tool Holder needs. Write for literature.

If you do not know the name of your local ARMSTRONG Distributor, inquire when asking for literature.

ARMSTRONG BROS. TOOL CO. 5245 W. ARMSTRONG AVE. CHICAGO 46, ILL.

SEE US AT BOOTH #3906, ASTME SHOW, NEW YORK COLISEUM

For more details circle **NED-482 E1** on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from 7/8" x 7/8" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

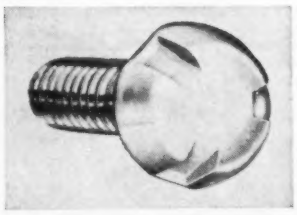
Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

* Stone Packaging And Research Know-how

For more details circle **NED-483 E1** on enclosed inquiry slip

TAMPERPROOF FASTENER
driven by special tool



Head design of the Torqtite fastener can be adapted to screws, Springtites, or Sems. Three equally spaced driving slots on its outer periphery require a special tool for driving and loosening. This tamperproof feature makes it suitable for use on equipment where unauthorized tampering might be dangerous. Driving forces on the outer periphery help eliminate driver slippage. • **Eaton Mfg. Co.,** Reliance Div., Massillon, Ohio.

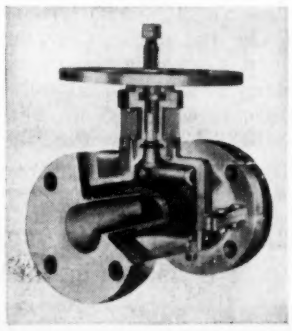
For more details circle **NED-485 E1** on enclosed inquiry slip

INDICATOR SWITCH
pushbutton type is illuminated

Indicator lamps rated 4, 6, 10, 12, 16, 24, 28, and 48 v are usable in this illuminated pushbutton indicator switch. Pushbutton has a translucent nylon cap in red, yellow, green, white, or blue, easily replaced from the front, as are the lamps. Single-pole double-throw switch has a 41/64-in. diameter and mounts with a Tinnerman Speed Clip. Four contacts serve separate indicating and load circuits. Switch is rated 5 amp at 250 v. Numbered, lettered, and special pushbutton designations are available. • **Sylvania Electric Products Inc.,** Lighting Products Div., 60 Boston St., Salem, Mass.

For more details circle **NED-486 E1** on enclosed inquiry slip

PINCH VALVE
opens fully on low line pressure



Design of Series L positive-opening pinch valve assures complete opening even when line operating pressure is below 10 psi. Valve permits straight-through flow in either direction at up to 98 per cent of full line capacity. It is fully enclosed, and metal body flanges are protected by elastomer facings. Valve is recommended for process control, airveying systems, tank drains, and vacuum service, and can be used with corrosive, abrasive, or viscous fluids as well as dry powders. Sizes from 1/4 to 14-in. ID operate at pressures to 400 psi and are furnished for hand, air, electrical, or electrohydraulic operation. • **RKL Controls, Inc.,** Hainesport Industrial Park, Hainesport, N. J.

For more details circle **NED-487 E1** on enclosed inquiry slip

NEEDS NO OUTSIDE POWER SOURCE!

Partlow Gas Control Model 40

PARTLOW
Throttling Gas Valve

Partlow gas controls for heating appliances are completely self-contained — need no outside power or extra accessories. Accurate . . . maintain exact temperatures without seesawing or overshooting. Convenient . . . elements can be changed at the job site. Available in 9 optional temperature ranges up to 1100°F., and in models to accommodate pressures up to 20 psi., and pipe sizes from 1/4 to 3 inches.

For details write Dept. N-561
The Partlow Corp., New Hartford, N.Y.

PARTLOW
TEMPERATURE CONTROLS

For more details circle **NED-488 E1** on enclosed inquiry slip

BEND? In your shop
Bend Pipe ?
Bend Tube ?
Bend Angles ?
Bend Solids ?

Do You

KNOW ABOUT WALLACE BENDERS?

(We've been building the best since 1896 — and the biggest line in the world.)

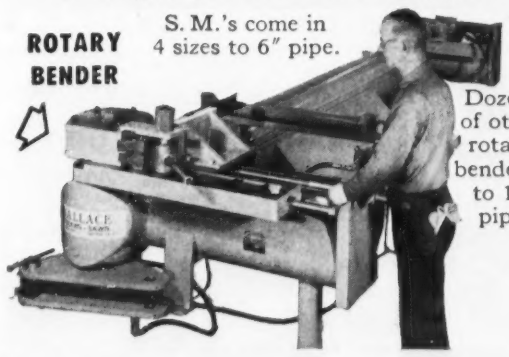
RAM BENDER

This is a Wallace-Tubela — 10 styles — price from $87.50 for 1/4", 3/8", 1/2" tubes to the 4" bender shown — @ $1,995.00

Or maybe you need an S-M type?

ROTARY BENDER

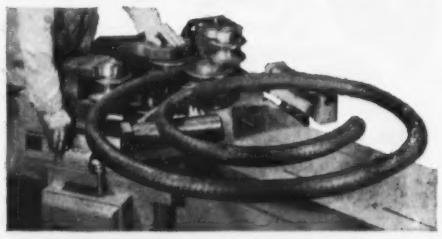
S. M.'s come in 4 sizes to 6" pipe.



Dozens of other rotary benders — to 16" pipe.

AND there are hundreds of jobs you can do on a

WALLACE ROLL



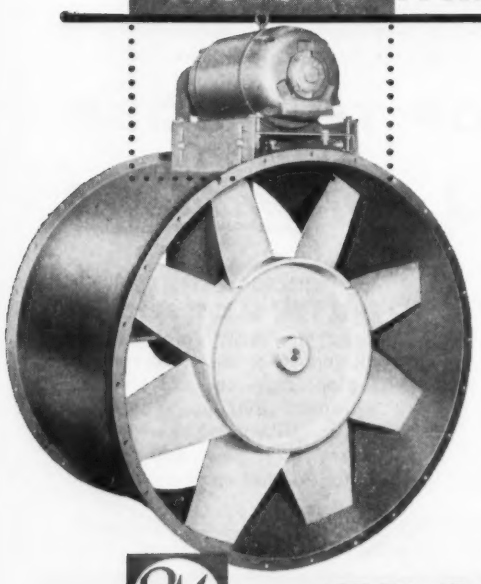
IN SHORT— IF YOU BEND *can you afford NOT to know about Wallace Benders?*

Phone: **BU 1-7000—COLLECT**
and ask us how we'd handle your jobs?

WALLACE SUPPLIES MFG. CO.
3512 N. Ravenswood Ave., Chicago 13, Illinois

For more details circle **NED-489 E1** on enclosed inquiry slip

CHANGE MOTORS ... ANYTIME TO STEP UP CAPACITY!



BELT-DRIVEN AXIAL FANS

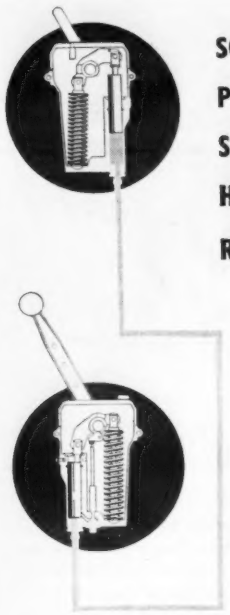
PROPELLAIR Type BT Fans, sizes through 60", have universal mounting plates which accommodate motors to 30 HP. All bearing assemblies are sized for 50 HP loads. BT Fans can easily be field-modified to boost or decrease capacity, regardless of original rating, simply by changing the motor and V-belt drive. Use BT Fans for low-cost general duty, for handling corrosive or explosive fumes, extreme heat or high humidity. Straight-line design permits easy, inexpensive installation. A wide range of propeller designs permits selection for maximum efficiency at the operating range involved. Fans bear AMCA Certified Ratings to 84,000 cfm, free air. Write today for Bulletin 625NE.

PROPELLAIR, Div. of Robbins & Myers, Inc., Springfield, Ohio.

DIRECT CONNECTED · SKY-BLAST® · EXTENDED SHAFT · MAN COOLER · CERTIFIED RATINGS AMCA

PROPELLAIR®

For more details circle **NED-484 E1** on enclosed inquiry slip



SOLVE LINKAGE PROBLEMS WITH SPERRY SINGLE TUBE HYDRAULIC REMOTE CONTROLS

Eliminates costly linkage designs. Sperry Controls give positive action, no sponginess . . . easily installed . . . rugged and reliable . . . maintenance free operation. Typical applications include throttle and governor control, feed and valve control, variable speed and clutch control or anywhere that accurate, instant duplication of movement is required.

SPERRY PRODUCTS COMPANY
DIVISION OF HOWE SOUND COMPANY
DANBURY, CONNECTICUT

Representatives in principal cities

▲ For more details circle NED-490 E1 on enclosed inquiry slip ▲

Handsome Twosome

Smart **new CORBIN**

LEVER and TEE HANDLES

Designed for use on a variety of doors: cabinets . . . panel boards . . . machinery . . . electronic equipment . . . and many others.

- One-, two- or three-point locking
- Available with or without locking mechanism
- Optional left- or right-hand handle operation—90° or 180° rotation
- Satin-chrome finish

Write for Folder, "SMART NEW LEVER AND TEE HANDLES"

CORBIN
CORBIN CABINET LOCK DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

▲ For more details circle NED-491 E1 on enclosed inquiry slip ▲

At Last... **Positive Protection Against Paint Spray**

with the *New* FLEX-A-PRENE® PAINT MASK

New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

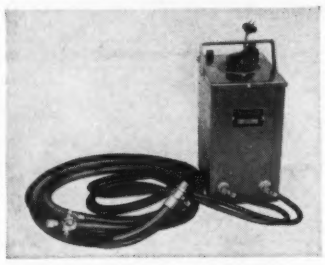
FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)

FLEXO Products, Inc. Westlake, Ohio

▲ For more details circle NED-492 E1 on enclosed inquiry slip ▲

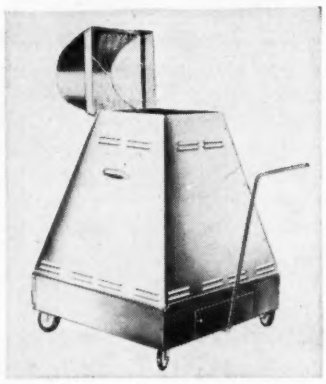
HEATED HOSE
conveys plastics, waxes, asphalts



Melted compounds which must be delivered to a point of application at a usable consistency can be conveyed by gravity or forced flow through this electrically heated Teflon lined hose. The Teflon lining is shielded by an outer stainless steel braid enclosed in an extruded Teflon protective sleeve. Power supply leads are attached to terminals at each end. Power source is a variable voltage step-down transformer with a 115 or 230-v single phase primary. Plastics, hot oils, waxes, paraffins, asphalts, and potting compounds are handled without heat loss. Metal and synthetic rubber lined hoses are also available. • **Sta-Warm Electric Co.**, 626 N. Chestnut St., Ravenna, Ohio.

▲ For more details circle NED-493 E1 on enclosed inquiry slip ▲

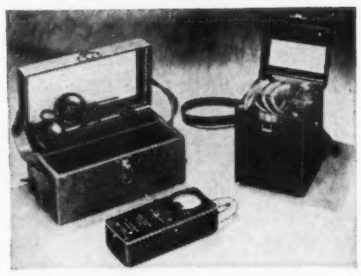
OUTDOOR INCINERATOR
10-bu unit moves about on casters



Model C10C caster-mounted outdoor incinerator with 10-bu capacity can be used in strategic locations as a trash receptacle then wheeled outdoors for burning. Waste paper, packing, cartons, sweepings, food scraps, rags, and other burnable refuse can be safely burned within 10 ft of buildings. Draft control minimizes the nuisance of blowing bits of burning paper as well as smoke and smell. Constructed of rust-resistant aluminized steel, unit has a large hinged hood, front swiveling casters, and a pull handle. It stands 56 in. high, measures 35 in. square at base, and is priced at $125. • **Alsto Co.**, 4007 Detroit Ave., Cleveland 13, Ohio.

▲ For more details circle NED-494 E1 on enclosed inquiry slip ▲

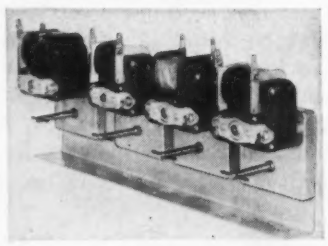
CABLE PHASING TEST SET
for use on underground systems



Used without removing all safety grounds, this cable test set provides a means for phase or conductor identification on underground cable systems. Transmitter consists of a packaged steep-wave-front impulse circuit connected to the cable terminal which periodically sends a pulse out on one identified conductor and back on another. The dual source device is operated from either a 60-cycle supply or from self-contained 67½-v dry cells. Individual conductors are identified by a detector, a unit similar to a clamp-on ammeter. When clamped around the A phase conductor it gives a pointer deflection in one direction. Opposite deflection shows B-phase and no deflection shows C-phase. • **James G. Biddle Co.**, Dept. 22, 1316 Arch St., Philadelphia 7, Pa.

▲ For more details circle NED-495 E1 on enclosed inquiry slip ▲

GEARMOTOR ASSEMBLY
has up to four fractional hp units



Any combination of output speeds and torque to meet specific requirements is available in this multiple fractional horsepower motor assembly. As many as four motors are assembled and mounted on a steel plate which also serves as a cover for the die-cast gear housings. Installation is simplified. Four-unit assembly sells for about $16 in production quantities. • **Molon Motor & Coil Corp.**, 3737 Industrial Ave., Rolling Meadows, Ill.

▲ For more details circle NED-496 E1 on enclosed inquiry slip ▲

NEG'ATOR® MOTORS
for Experimental Designers

NEG'ATOR spring motors can solve many "mechanical drive" problems. They provide more turns than any other spring motor, give constant torque output, are powerful and compact, will not "jump" or skip. Order one for experimental purposes. See table below for stock models and prices.

Model No.	Spring Torque in Lb.-In.	Cable Tension in Lbs.	No. Revolutions	Cable Length in In.	Endurance (Min. No. Cycles)	Price
P7172	.1	0.375	20	36	3,000	$5.00
A2025-1	.78	1.0	15	72	7,500	8.00
A2025-2	1.56	2.0	15	72	2,500	8.00
A2025-3	2.33	3.0	15	72	4,500	12.00
A2025-4	3.12	4.0	15	72	2,500	12.00
A2025-5	3.90	5.0	15	72	2,000	12.00

HUNTER Springs in Springs
HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania

▲ For more details circle NED-497 E1 on enclosed inquiry slip ▲

NEW ROTOR *Airiter*

gives world's fastest, easiest marking

There's nothing like the new Rotor *Airiter!* It marks anything . . . metal, plastic, glass, ceramic . . . parts or tools . . . as easy and fast as writing with a pen. No messy chemicals; no risky heat. Short-stroke carbide stylus makes up to 12,000 blows per minute. Speed and depth of mark easily controlled by throttle *on tool.* Will not stall while writing. Peening action . . . does not remove metal. Weighs only 5¼ ounces. Try it in your shop and see how it writes circles around other methods! Write for Bulletin AR-2. *The Rotor Tool Company, 26335 Lakeland Boulevard, Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corporation.*

ROTOR TOOLS

▲ For more details circle NED-498 E1 on enclosed inquiry slip ▲

Dirty Hands

CAN COST YOU MONEY!

- In slowdown and time lost from skin infections
- In lost washroom time
- In rejects and poor quality

STOP THIS LOSS

WITH *Hammons*

The original
LIQUID WATERLESS
SKIN CLEANER

Removes grease, paint, tar and all industrial soil. Prevents infection, chapping and soreness. Approved and used by more plants, government agencies and offices than any other liquid waterless skin cleaner.

See your sanitary supply distributor or write us NOW for data and prices.

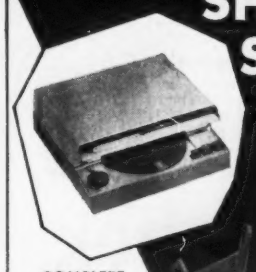
Hammons Products, Inc.
1143 W. Wildwood, Fort Wayne, Ind.

▲ For more details circle NED-499 E1 on enclosed inquiry slip ▲

SOUNDSCRIBER CHOOSES...

SHORT RUN STAMPINGS

WLS SELECTED FOR PRODUCTION OF BASIC PARTS



Complicated component stampings of the advanced Soundscriber equipment were produced with efficient precision by WLS Stamping Company after receiving comprehensive blueprints from Soundscriber Corporation.

The work included production of eight essential parts for this famous office dictating system. WLS is proud to have been an important part of preliminary Soundscriber planning and therefore takes equal pride in the ultimate success of the equipment.

FREE!

For those manufacturers who are faced with manufacturing problems, we offer a free bulletin illustrating many stampings we have produced, as well as a sample and cost summary of an actual part. We also offer free quotations.

COMPLETE FACILITIES
- Blanking
- Forming
- Piercing
- Drawing
- Extruding
- Stenciling
- Tapping
- Countersinking
- Plating
- Machining
- Painting
- Grinding
- Welding

WLS — Will Lead to Savings!

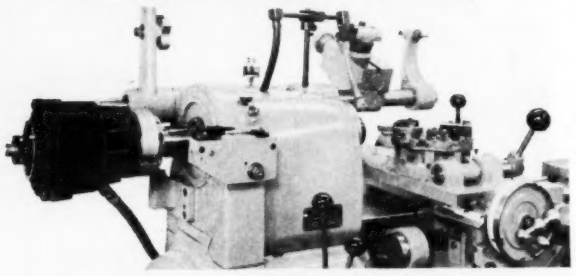
STAMPING COMPANY

Charter Member of Small Lot Stamping Institute

3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-500 E1 on enclosed inquiry slip

Low-cost WIL-NUMAT Air Actuator increases machine versatility!



Converts any turret lathe or automatic to BAR machine or CHUCKER in minutes!

- Instantly closes chucks or collets with air.
- Replaces slow manual and cam type closers.
- Increases actual productive time 25% — pays its own cost quickly.
- Requires no machine modifications.
- Feeds, releases bar stock through hollow actuator bar.
- Powerful adjustable grip eliminates all bar slippage regardless of stock variations.
- No whipping — vibration minimized.

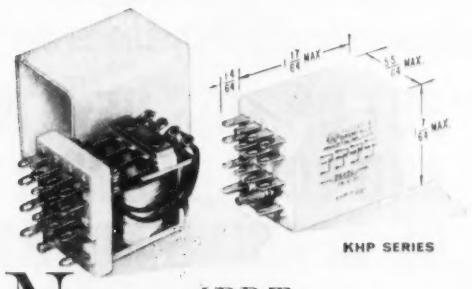
BAR CAPACITIES THRU 1½"

LOWEST PRICED AIR ACTUATOR ON THE MARKET

Write for detailed literature. Specify machine and bar capacity needed.

WIL-NUMAT CORPORATION
411 S. Hindry
Inglewood 1, California

For more details circle NED-501 E1 on enclosed inquiry slip



KHP SERIES

New 4PDT 3 AMP P&B relay

MECHANICAL LIFE EXCEEDS 100 MILLION CYCLES

This small (about a 1" cube) 4-pole relay not only maintains operating tolerances over an exceptionally long life—but is easy to install, using the conveniently spaced solder lugs or a socket.

Its 4PDT contacts will switch loads from dry circuit up to 3 amperes. Order samples today.

KHP SERIES SPECIFICATIONS

CONTACTS: Arrangement: 4 Form C, 2 Form Z. Material: 3/32" dia. Silver standard. Rating: 3 amps @ 30 volts DC or 115 volts AC resistive for 100,000 operations.
INSULATION RESISTANCE: 1500 megohms min.
COILS: Resistance: 11,000 ohms max. Temperature: Operating Ambient: —45°C. to +70°C.
Power: 0.5 watts min. operate @ 25°C. 0.9 watts nom. @ 25°C. 2.0 watts max. @ 25°C.
MECH. LIFE: In excess of 100 million cycles.
DUST COVER: Standard.
TERMINALS: Solder lug and taper tab.
SOCKET: Solder lug or printed circuit terminals. Available as accessory.

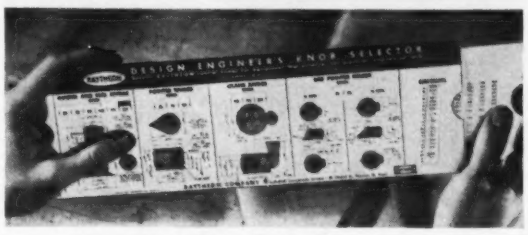
KHP SERIES RELAY NOW AVAILABLE AT YOUR LOCAL ELECTRONIC PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

For more details circle NED-502 E1 on enclosed inquiry slip

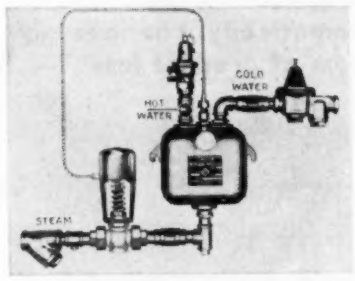
KNOB SELECTION SLIDE RULE
choice of 345 styles is available

By merely setting the desired specifications on the sliding panel of this slide rule, a selection of styles of knobs which fit the needs is quickly made. Information on more than 345 plastic instrument and equipment knobs is presented. Companion product is a 22 x 34-in. wall chart which offers the same data as the slide rule. Many of the control knobs comply with the most recent Military specifications. • **Raytheon Co.**, Lexington 73, Mass.



For more details circle NED-503 E1 on enclosed inquiry slip

STEAM-MIXER WATER HEATER
in capacities from 10 to 100 gpm



All cast bronze body with noiseless double-sleeve bronze diffuser comprises this improved packaged automatic steam-mixer water heater which is offered in 10 to 100-gpm capacities at 50 to 125 psi and higher. Units have packless temperature regulator with stainless steel trimmed valve, single or double seated; automatic temperature-pressure relief valve; silent poppet check valves; and combination water pressure regulator and strainer. They are available for single or multiple water temperatures. • **O'Brien Steam Specialty Co.**, Box 217, Eastwood Station, Syracuse 6, N. Y.

For more details circle NED-504 E1 on enclosed inquiry slip

MOBILE COFFEE MAKER
perks and dispenses up to 55 cups

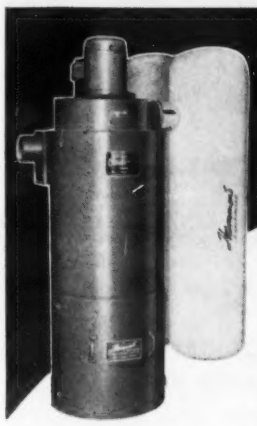
Using a standard 55-cup percolator, automatic cup dispenser, and solenoid dispensing valve, this Koffee Kart mobile coffee dispenser for sanitary, in-plant service can be coin or manually operated. An automatic timer turns on the percolator at a preset time, and "serve" and "empty" lights allow operation only when coffee is ready. Cream and sugar dispensers are on the outside of the unit. Under manual operation, coffee can be vended into employee's personal cup if cup dispenser is empty. Unit has its own locked storage space, requires no water connections or drains, and is easily moved and serviced. Price is $395. • **Gardner Mfg. Co.**, Horicon, Wis.

For more details circle NED-505 E1 on enclosed inquiry slip

ADJUSTABLE SUCTION TUBE
for unit-type dust collectors

Flexible, tough fabric hose supported by lightweight arms which pivot for movement to any position comprises this adjustable suction tube assembly for unit-type industrial dust collectors. Available in 3 and 4-in. hose diameters, tube assembly rotates through 360 degrees and has up-and-down travel of nearly 8 ft. Highly efficient fixed dust nozzle needs no manual adjustment. Tube assembly eliminates need for permanently installed ducts and thus allows collector to be moved to serve new operations, or to be set up to handle dust collection on traveling work. Price ranges from $52 to $60. • **Torit Mfg. Co.**, 1133 Rankin St., St. Paul 16, Minn.

For more details circle NED-506 E1 on enclosed inquiry slip



Hammond DUSKOLECTORS don't cost . . . they pay!

Get rid of dust and dirt. Your employees will be happier, your atmosphere healthier, your cleaning and painting costs will be reduced, your machines will stay accurate longer.

Popular, independent type Hammond DusKolectors are offered in 8 sizes ranging from 350 to 3500 CFM. Investigate . . . see how quick they are to pay for themselves!

A TYPICAL USER . . . TOKHEIM (QUALITY) FT. WAYNE, IND. . . . REPORTS:

"Hammond DusKolectors are doing a very fine job of collecting the dirt, of which there is plenty in polishing the stainless steel on the gasoline pumps we make. We selected Hammond due to its compact design, and because we have other Hammond equipment in our plant and know it to be good."

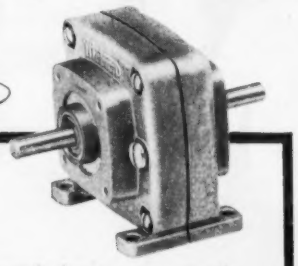
Write for this "How-To-Do-It" catalog on Dust and Mist Collecting

Hammond Machinery Builders INC.
1623 Douglas Ave. Kalamazoo, Mich.

See us at the ASTME Show, May 22-26, New York, Coliseum

For more details circle NED-507 E1 on enclosed inquiry slip

FROM Metron



A PART OR A PACKAGE

A PART: *Bantam speed changers — a small size precision workhorse*

RATIOS: 646 from 1:1 to 85184:1
HORSEPOWER: 0.1 maximum
TORQUE: 130 oz-in
SPEED: 10,000 RPM maximum
BACKLASH: 15' maximum (Series 11)
WEIGHT: 16 to 45 oz depending upon ratio
BEARINGS: double, heavy-duty ball
DELIVERY: 10 days

A PACKAGE: Bantam speed changers are only one product in Metron's complete line of small speed changing components. Call on our engineers for design help with your speed changing or control problems. Tell us what *results* you're after — what your inputs and loads are. We'll come up with an output package to do the job efficiently and economically. Send your prints today!

Metron Instrument Co.
432 Lincoln • Denver 3, Colo.
PE 3-3764 • TWX: DN 194

For more details circle NED-508 E1 on enclosed inquiry slip

Now you can-- Seal Cans Fast with FREUND TRIPLE-GRIP Can Clips*

*Exceed Post Office Requirements for Parcel Post Shipment

If you ship in friction top cans--it will pay you to seal the lids with Freund Triple-Grip Can Clips. Once applied--they stay put. And anyone can quickly and easily apply them--no skill or experience required.

SEND FOR SAMPLES

For convincing proof--you're invited to try Freund Triple-Grip Can Clips and see for yourself. Samples, simple instructions, and low quantity prices--yours for the asking. Use your letterhead or handy coupon below.

FREUND CAN COMPANY
4445 Cottage Grove Ave. • ATlantic 5-7700 • Chicago 53, Ill.

FREUND CAN COMPANY
4445 Cottage Grove Ave.
Chicago 53, Illinois
Date _____ 6

Without obligating us--send samples of Freund Triple-Grip Can Clips.

YOUR NAME _____ FIRM NAME _____

ADDRESS _____

For more details circle NED-509 E1 on enclosed inquiry slip

REDMER Index Chuck with Air Operated Collet

SIMPLIFIED DESIGN SPEEDS UP OPERATION AND REDUCES INDEXING ERRORS

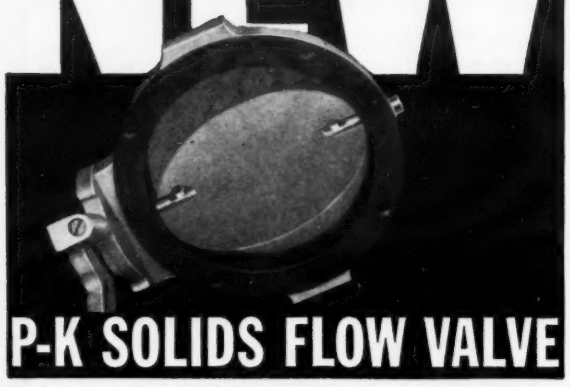
The REDMER AIR INDEX CHUCK speeds up production and eliminates many costly indexing errors in either tool room or production line operation. Indexing positions on outside of chuck simplify changeovers. Lever locks into position after each index. Can be used as holding fixture without indexing for milling, drilling, tapping, etc. Twelve indexing positions. Collet capacity 1/16" to 2". Complete with standard round Brown & Sharpe type collet, two air hose, Redmer Foot Control and Valve, Filter, Regulator and Lubricator.

Send for complete details, specifications, price list and catalog of all REDMER chucks.

REDMER AIR DEVICES, INC.
P. O. Box 12229-7100—30th Ave., North
St. Petersburg 33, Florida

▲ For more details circle **NED-510 E1** on enclosed inquiry slip ▲

NEW



P-K SOLIDS FLOW VALVE

Used wherever flow of solids has to be controlled. For hoppers, tote bins, blenders, etc. Neoprene lined, stainless steel disc and stems. Priced as low as $96.00.

FREE BULLETIN NO. 16-P

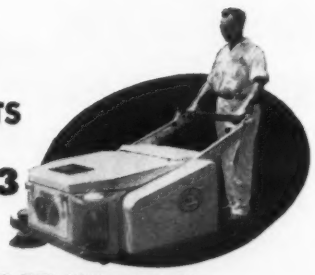
Contains information on sizes and accessories and all P-K Processing Equipment.

Patterson Kelley

Chemical and Process Equipment Division, East Stroudsburg, Pa.

▲ For more details circle **NED-511 E1** on enclosed inquiry slip ▲

9 MAJOR IMPROVEMENTS IN THE WAYNE 703 POWER SWEEPER



AT NO INCREASE IN PRICE

Now you can get the completely re-designed and improved Wayne 703 Power Sweeper . . . *at no increase in price!*

- New larger engine—5¾ horsepower
- New dual traction and broom drives
- New long-life synthetic brushes
- Relocated oil-bath air cleaner
- New super-quiet muffler
- Quick-remove engine access panel
- Rugged wrap-around bumper
- Optional LP gas kit
- Optional water muffler

The 703 is a fast, maneuverable, walk-behind sweeper that cleans up to 40,000 square feet per hour, indoors or out. It's ideal for factories, parking lots, warehouses, garages—any hard-to-sweep, congested area. If you want to see what Wayne power sweeping can do for you—ask for a demonstration! Write today!

WAYNE MANUFACTURING CO.
3378 EAST LEXINGTON STREET, POMONA, CALIFORNIA

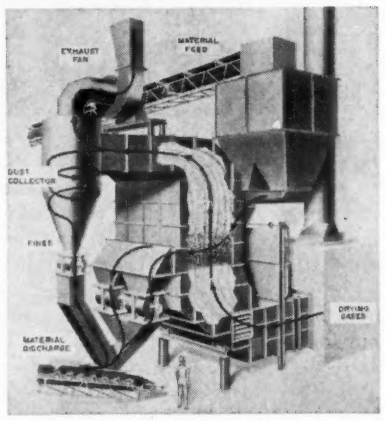
▲ For more details circle **NED-512 E1** on enclosed inquiry slip ▲

THREAD ROLLING MACHINE makes up to 60 pieces per minute

High speed automatic oscillating head on the Model A22 three cylindrical die thread and form rolling machine increases production rates up to 60 pieces per minute from the 26-piece rate formerly produced manually. Use of aluminum in the cam-actuated head affords a lightweight unit capable of high speed operation. The Model A22 machine with the new high speed head is offered at no increase in price. With the three-die principle, work is self-centering between the three dies. Hollow or thin walled work is successfully rolled with this equipment. High speed work handling equipment for a wide variety of parts is available. ● **Reed Rolled Thread Die Co.,** 791 Main St., Holden, Mass.

▲ For more details circle **NED-513 E1** on enclosed inquiry slip ▲

GRANULE PROCESSING DRYER operates automatically, continuously with a minimum of product loss



Coal, chemical, rock, and similar industries requiring the drying, cooling, or roasting of granular solids are served by this Fluid-Flo dryer which operates automatically and continuously. Material is fed over a constriction plate through which hot drying gases are pulled by fan suction. Material is suspended in a fluidized mass above the plate and flows across the plate to a discharge chute.

Fines are carried through a dust collector and can be recombined with the processed materials, if desired. Unit has no moving parts, has high thermal efficiency, and operates with minimum product degradation since material is retained within the dryer for only a short time. ● **Link-Belt Co.,** Dept. PR, Prudential Plaza, Chicago 1, Ill.

▲ For more details circle **NED-514 E1** on enclosed inquiry slip ▲

PRE-ENGINEERED METAL BUILDINGS expanded line forms various shapes, has several wall treatment options

Beauty and economy are major considerations in redesigned Butler pre-engineered metal buildings. Expanded line covers both conventional roof pitch and

low profile buildings which meet code requirements all over the country, and includes 24-ft instead of 20-ft bay lengths. Wedge Beam buildings in 24 and 48-ft wide modular units can be incorporated to form buildings up to 336 ft wide and arranged in H, L, or T shapes.

Curtain wall systems now include the Modular Wall, an insulated wall panel that combines embossed aluminum with complementary windows, doors, trim and decorative eave overhang. Another is Monopanl, a single assembly metal unit with glass fiber insulation between attactive exterior and interior panels. Basic building covering is Butlerib, an uninsulated panel available in galvanized steel, aluminum, and various baked-on colors. Lite*Panl-20, a shatterproof plastic building panel guaranteed 20 years on weatherability, is also offered.

Accessories include die-formed and cut-to-fit trim, new extruded aluminum windows, low-profile 20-in. ventilators, and sliding and walk-in doors. ● **Butler Mfg. Co.,** 7400 E. 13th St., Kansas City 26, Mo.

▲ For more details circle **NED-515 E1** on enclosed inquiry slip ▲

Here's the efficient, economical answer to troublesome dumping problems

WORK-O-MATIC multi-duty box

with patented drop-bottom feature

Catalog No. 89 is available to give you the economy story on versatile Work-O-Matic boxes and integrated handling in and out of process. Write The Union Metal Manufacturing Co., Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle **NED-516** ▲

Electrical Protection goes MODERN with Buss Fus

in the New Service Center of the Public Service Co. of Colorado

This recently completed service center at 2701 West 7th Ave., has BUSS and FUSETRON Fuses installed throughout the entire electrical system.

The modern trend is to fuses because — no other type of protective device can equal fuses for safe, dependable protection against ruined equipment, fire hazards and needless down-time.

MAXIMUM SAFETY

The interrupting rating BUSS Hi-Cap Fuses is 200, amp. rms symmetrical for FUSETRON dual-elem Fuses it is 100,000 amp.

LIFETIME DEPENDABILITY

Unlike mechanically o ated devices, fuses require maintenance or recalibratio they are always ready to fu tion the instant trouble occ

THERE IS A BUSS OR FUSETRON FUSE FOR EVERY ELECTRICAL NE

▲ For more details circle **NED-517** ▲

DISTRIBUTOR DAN, the SKF bearin

"PUT UP THIS NEW WALL AND YOU'LL LOWER THE OF BEARING MAINTENA

Add up the costs of downtime, maintenance and bearing replacement. They may total much more than you think. So, how can you reduce them? It's easy—put up this bear maintenance chart where your crew can refer to it often.

Just look at its contents! It tells how to keep bearings lubricated • how to prevent overheating • how to protect bearings from dirt • and how to check bearings during run-in—to prevent damage and downtime later.

Every plant needs at least one copy of this bearing chart, and perhaps more. Get as many as you need. Just send the reader inquiry form inserted in this magazine. Or, ask your Authorized SKF Distributor. 6036

SKF MOTION ENGINEERING

Advanced ball and roller bearing technology

▲ For more details circle **NED-518** ▲

inquiry slip ▲

OWNER: Public Service Company of Colorado
ARCHITECTS: G. Meredith Musick & Clayton C. Musick
ELECTRICAL CONSULTANTS: Swanson, Rink & Associates
ELECTRICAL CONTRACTOR: Howard Electric Co.
TOTAL FLOOR AREA: 77,400 square feet.

ary voltage at underground transformer vault; 13,800 volts, , 4 wire. Secondary voltage; 120 and 208—3 phase, 4 wire.

Power Panels:
Protected by 2,500 Amp. BUSS Hi-Cap fuses.
Lighting Panel:
Protected by 1,500 Amp. BUSS Hi-Cap fuses.
wer Distribution Panels:
Equipped with FUSETRON dual-element fuses.
ghting Distribution Panels and Heating Panels:
Protected by Buss FUSTAT fuses.

or more mation on:
Buss FUSTAT fuses ..... write for bulletin SCPS
FUSETRON dual-element fuses write for bulletin FIS
BUSS Hi-Cap fuses ..... write for bulletin HCS

n Mfg. Division, McGraw-Edison Co., St. Louis 7, Mo.

l inquiry slip ▲

ed inquiry slip ▲

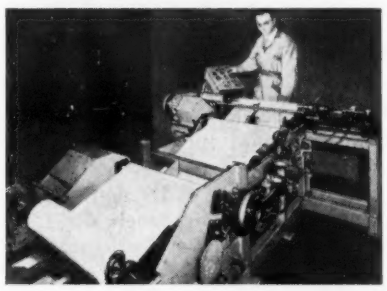
VIBRATORY PARTS FEEDERS
orientation segments changed to feed variety of dissimilar parts

Interchangeable parts-orientation segments of TransfeRobot parts feeders overcome obsolescence because they can be modified to feed, orient, and dispense a wide variety of small, dissimilar parts. Feeders consist of vibratory bases and 18 or 24-in. universal feeder bowls, each of which accepts any of five standard segments covering a wide range of needs.

Width and pitch of the track in each bowl accommodates a wide range of part sizes and shapes. Changing of segments does not affect tuning of the vibratory base. Driving motor has built-in compensation for line voltage variations. Static type control circuit affords smooth amplitude control and accepts direct inputs from external process sensors and monitors of various types. • **U. S. Industries, Inc.,** USI Robodyne Div., 8411 Second Ave., Silver Springs, Md.

▲ For more details circle **NED-519 E1** on enclosed inquiry slip ▲

HIGH SPEED SLITTER-WINDER
web tension is easily controlled by equipment made in eight widths

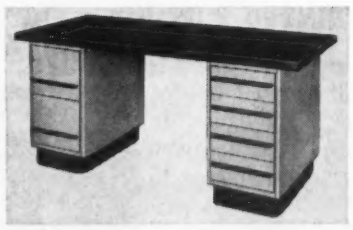


Paper, plastic film, and ferrous and nonferrous metals are handled by the Type RAS high speed production slitter-winder. The air operated sensing head can be set and locked. A magnetic proportioning brake prevents binding caused by misalignment, and an electrical trimmer holds web edges in alignment regardless of web speed. Slitter cartridge is easily removed and exchanged for burst, score, shear slitting, or razor blade slitting.

A turret rewinder for continuous rewinding without stopping the machine is optional. Winding may be done from top or bottom, and is electronically controlled from a centralized control panel. Stagger cuts on individual rewind shafts are possible. Slitter-winder is made in 16, 20, 24, 30, 36, 48, 60, and 72-in. widths for laboratory, pilot plant, and light production use. • **Web Controls Corp.,** Dept. S-W, 318 Briarcliffe Rd., West Englewood, N. J.

▲ For more details circle **NED-520 E1** on enclosed inquiry slip ▲

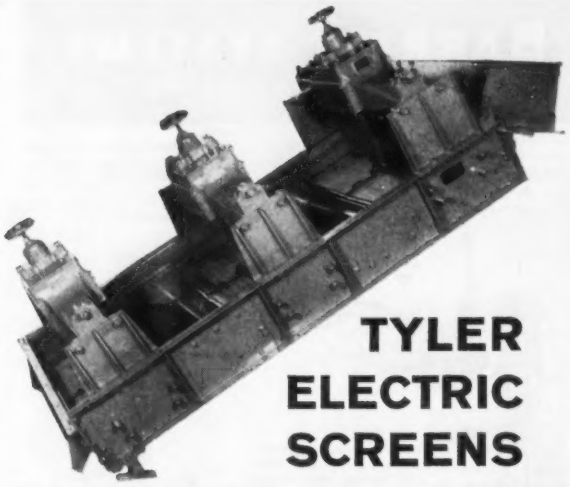
MODULAR WORK STATIONS
unlimited combinations of doors, drawers, and shelves possible



The Modulite work planning system of steel cabinets with table-top work surfaces affords unlimited combinations of doors, drawers, shelves, and sides, with conversion to new combinations possible at any time using only a screwdriver. System provides a basic pedestal and components of three door sizes, two drawer sizes, and shelves. By combining these components in different arrangements, work stations to serve any need are created.

Completed cabinets have a modern design and are finished in gray with black trim. Work surfaces of new Granilite are provided in Milford Buff and Peerless Black finishes in sizes from 30 x 48 in. to 30 x 96 in. Textolite plastic laminated work surfaces in the same sizes are also available separately or in combination with Modulite sections. These sections are assembled at the factory according to customer specifications and shipped ready for placement. Components are also sold separately for system alteration. • **Sturdilite Products, Inc.,** 919 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle **NED-521 E1** on enclosed inquiry slip ▲



TYLER ELECTRIC SCREENS
cut cost of material separation

Tyler's Hum-mer electric screens offer unequaled economy and efficiency in their operating range. These screens have no bearings, require no lubrication or attention, and have very low power requirements. Ideal for screening medium and finer sized granular materials. Can be operated with electric heat. *For copy of illustrated brochure 83* write The W. S. Tyler Company, 3615 Superior Avenue, Cleveland 14, Ohio.

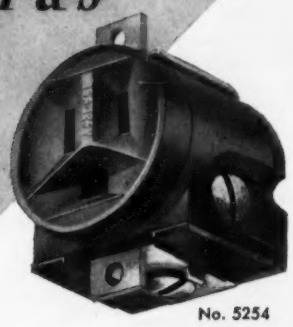
TYLER

WOVEN WIRE SCREENS • SCREENING MACHINERY • TESTING SIEVE EQUIPMENT

▲ For more details circle **NED-522 E1** on enclosed inquiry slip ▲

NEW from P & S

SHORT STRAP
3-WIRE GROUNDING OUTLET



No. 5254

• COMPACT • FUNCTIONAL • STURDY

- Double grip type bronze contacts
- 125 Volt (parallel slots) or 250 Volt (tandem slots)
- Back and side wiring or side wiring only
- 1.750" or 1.937" screw spacing

For more information on short strap 3-wire grounding or for engineering assistance with any wiring device problem, write Dept. NED 561.

P&S PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

▲ For more details circle **NED-523 E1** on enclosed inquiry slip ▲

YOU CAN SCRIBE THE FINEST LINES...ACCURATELY

NOW YOUR CHOICE OF COLORS...NEW 8 OZ. CAN

Red and Green have been added to our traditional blue in SLIDE THIN-LINE. No matter what color meets your needs best, you get high SLIDE THIN-LINE quality, ease of application and low user cost. Order today for the best in layout inks.

- BLUE, RED, GREEN
- THINNEST, SHARPEST LINE
- USED ON METAL OR GLASS
- LINES CAN BE CROSSED WITHOUT BREAKING
- COVERS LARGE AREA
- EASIEST APPLICATION
- EASY TO STORE
- NON-FLAMMABLE
- GLARE-FREE
- QUICK DRYING

SLIDE THIN-LINE *Aerosol* LAYOUT INK

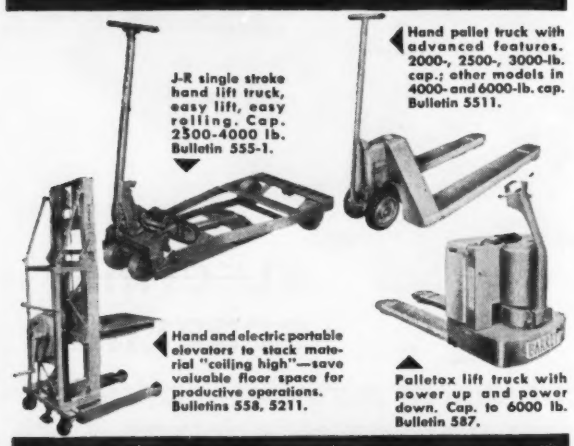
ORDER FROM YOUR JOBBER OR SEND THIS COUPON

Send me ..... cans of SLIDE THIN-LINE. (Single 8 oz. cans, $1.45. Cases of 12, $16.20).
NAME .....
FIRM .....
ADDRESS .....
CITY ..... STATE .....
☐ Standard Blue ☐ Check Enclosed
☐ Red ☐ Green ☐ Bill Company

PERC E. HARMS 1739 Harding Road, Northfield, Ill.

▲ For more details circle **NED-524 E1** on enclosed inquiry slip ▲

BARRETT SYSTEMS
Engineered to your job



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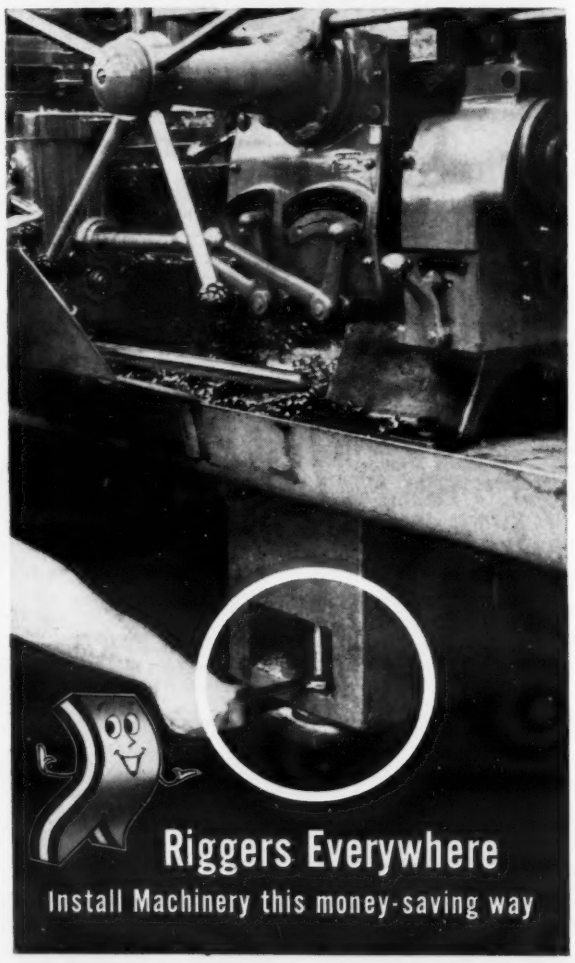
Whatever your materials handling requirements may be, Barrett can do the job efficiently, economically.

BARRETT
Materials handling engineers for half a century

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois. Representatives in All Principal Cities.

For more details circle NED-527 E1 on enclosed inquiry slip



Watch the way the experts — the riggers — move machinery! They work with Unisorb pads and Level-Rite mounting devices — save up to 80% in installation time and costs. Unisorb simplifies and speeds machinery relocation. No bolts, lag screws or time-consuming drilling is necessary. Labor savings at installation actually pay for Unisorb — and then some!

What's more, Unisorb Mounts eliminate up to 85% of transmitted vibration and noise — increase machine life, efficiency and speed — step up machine and worker productivity. Maintenance costs of machinery and buildings are lowered. Level-Rites, now available in 11 models, can take loads from 200 to 7500 lbs. All types of machines can be mounted on all types of floors. Ask for a Money-Back Trial . . . NOW!

See your local distributor

UNISORB LR LEVEL-RITE MOUNTS For heavy duty. Exclusive screw post design, steel base plate, Unisorb pad.

UNISORB LR 200 and LR 500. "200" is for business machines, light machine tools. "500" is for light duty machine tools.

UNISORB UL — Base plate (with recessed center) Unisorb Pad combination for machines with built-in leveling screws.

UNISORB MOUNTING PADS — the basic vibration control unit. Takes the big tonnages. Many densities and thicknesses.

UNISORB

UNISORB 224 SOUTH STREET, BOSTON 11, MASSACHUSETTS
Division of THE FELTERS COMPANY

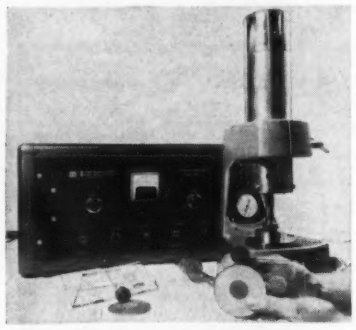
New York, N. Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. • Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Lynwood, California

Please send me a Unisorb Sample and Free Book

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-528 E1 on enclosed inquiry slip

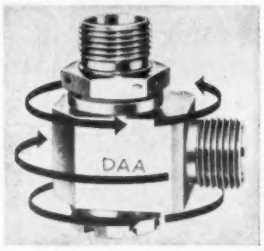
ULTRASONIC DRILL
machines metal, ceramic, ruby



Model D-101A ultrasonic drill is almost twice as efficient in multiple machining, slicing, cutting, and etching as Model D-100A which it supersedes. It handles tool sizes up to ¾ in. on a diagonal and machines glass, ceramic, ruby, ferrite, germanium, and tool steel at rates from 0.008 to 0.200 ipm. Impact grinding will produce delicate engravings in glass and gems, as well as accurate dicing of semiconductor materials. Unit drills holes as small as 0.002 in. and can machine white sapphire into instrument bearing blanks, drill ceramic insulators for electronic tubes, and machine port cavities in servomechanisms. List price of $1875 includes the generator. • **Gulton Industries, Inc.**, Vibro-Ceramics Div., 212 Durham Ave., Metuchen, N. J.

For more details circle NED-529 E1 on enclosed inquiry slip

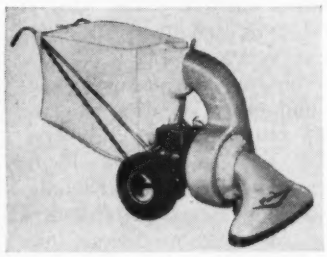
FLUID LINE SWIVEL FITTINGS
improved for lower torque rating



Line of low torque swivel fittings for fluid line systems has been improved for even lower torque ratings. Compact, lightweight assembly provides 360-degree rotation and will operate at temperature extremes and pressures up to 5000 psi. The ¼-in. tube size has less than ¾ lb-in. torque at 3000 psi; whereas the 1-in. tube size has less than 4 lb-in. torque at the same pressure. Designer's templates for the line, covering ⅛ through 2-in. OD tube sizes, are available. • **Dumont Engineering Co.**, 1401 Freeman Ave., Long Beach, Calif.

For more details circle NED-530 E1 on enclosed inquiry slip

SUCTION SWEEPER
picks up trash, papers, dirt



Usable indoors or outside, Vac-35 gasoline engine powered vacuum cleaning machine will pick up anything from dust to newspapers and cardboard boxes. This 11-cu ft capacity mobile machine cleans a 30-in. wide swath and deposits the trash in an easily-emptied cloth filter-bag. Features include lightweight reinforced glass fiber construction, sparkproof aluminum impeller blades, and oversize wheels with cushioned pneumatic tires. • **Parker Sweeper Co.**, Box 720, Springfield, Ohio.

For more details circle NED-531 E1 on enclosed inquiry slip

PRINTED CIRCUIT GRID KIT
facilitates prototype operations

All materials needed by a designer to make prototype printed circuits in 15 min are contained in kits which contain Fotoceram grid boards, etching resists, and etching materials. Grid boards are available separately, studded with 0.052-in. holes on 0.1-in. centers to simplify making circuit and component layouts. Users etch unneeded copper metallizing from the copper-clad glass ceramic material except where circuit runs and pads are desired. Also included in kit are grid paper for practice layouts, vinyl resist tape, and instructions. Kits come in a plastic box that serves as an etching pan. Prices range from $1.95 to $8.95. • **Corning Glass Works**, Electronic Components Dept., Bradford, Pa.

For more details circle NED-532 E1 on enclosed inquiry slip

TALK-A-PHONE
INTERCOMMUNICATION
The Accepted Symbol of Quality and Dependability

Only the New TALK-A-PHONE has these exclusive features!

- **DYNASONIC SELECTOR.** Select station performance, intermix or change as needed.
- **MULTI-MAGIC STATION SELECTOR.** Up to 50-station capacity in same attractive cabinet.
- **"PRIVATE" or "NON-PRIVATE" MASTERS and STAFFS.** Converse in privacy, answer calls from a distance.
- **NOISE-FREE, VOICE-RANGE POWER.** Rugged, All-Transistor, high-gain amplifier provides exceptional clarity and naturalness of tone.

PLUS . . . Incoming Call Chime; Busy Signal; Monitoring Signal; External Relay Control; Reciprocal Power Supply . . . all as standard features of the New TALK-A-PHONE

Proportioned like a book, only 3-inches high. The look and feel of fine-grained leather, with the strength and rigidity of steel. In charcoal gray and brushed chrome.

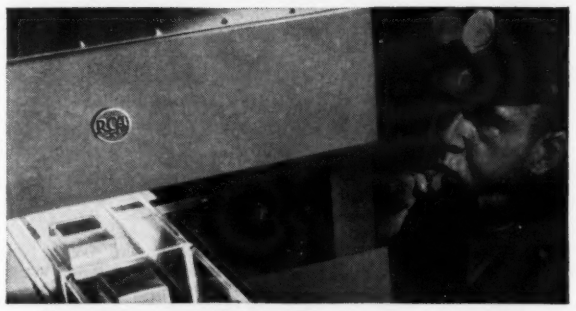
A.I.A. File Number 31-i-51

Write for free brochure and name of nearest distributor

TALK-A-PHONE CO.
Dept. NE-5, 5013 N. Kedzie Ave., Chicago 25, Illinois

For more details circle NED-533 E1 on enclosed inquiry slip

RCA ELECTRONIC METAL DETECTOR



Automatically protects against tramp metal
in foods, plastics, textiles, chemicals, and rock products

When stray metal is detected, the conveyor automatically stops, or the danger zone is marked, even though the "trouble-makers" are hidden from human eyes. Inspects powdered, bulk, sheet or packaged materials.

Protects costly machinery!
Safeguards product quality!

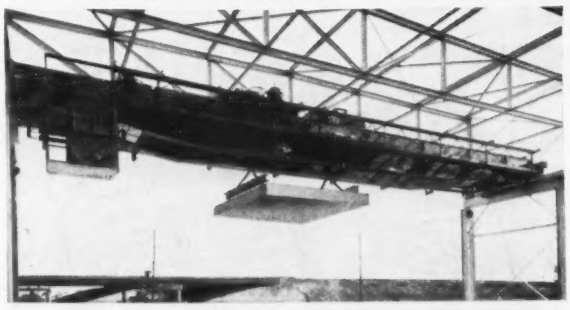
Find out all about the RCA Metal Detector . . . how it can save you thousands of dollars . . . quickly pays for itself. Write for free booklet: RCA, Dept U-329, Building 15-1, Camden, N. J.

RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle NED-534 E1 on enclosed inquiry slip

Custom-Engineered
CONCO CRANES
fit* the job, *do* the job . . . *Better

Conco Crane Installation at Underwriters' Laboratories, Chicago



Conco Cranes are engineered to fit your job like a glove. And because custom-building is standard-practice at Conco, special crane features are practically priced. Write us for Bulletin 5000A covering the complete line of Conco cranes, hoists and trolleys.

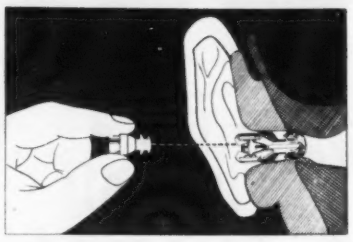
Material Handling Division
CONCO ENGINEERING WORKS, INC.
57 Grove Street, Mendota, Illinois

CRANES CONCO HOISTS

AFFILIATES
Sparton Tool Division—Powered Sewer Cleaning Equipment
Field Control Division—Barometric Draft Controls
Conco Building Products, Inc.—Brick, Tile, Stone

For more details circle NED-535 E1 on enclosed inquiry slip

MECHANICAL HEARING PROTECTOR



→ Lee Sonic EAR-VALVS (NOT EARPLUGS) are tiny ear-insert type hearing protectors that do not create even a partial sensation of deafness. They contain an inner mechanism which automatically removes the harmful energy components from noise while allowing wanted sounds to get through in a harmless state. The ear canal remains constantly open for normal air circulation. Lee Sonic EAR-VALVS safeguard the human hearing mechanism and afford the ultimate in hearing protection without plugging or sealing the ears. They overcome the resistance to wearing solid plugs which create a feeling of deafness—a condition comparable to being blindfolded and unable to see.

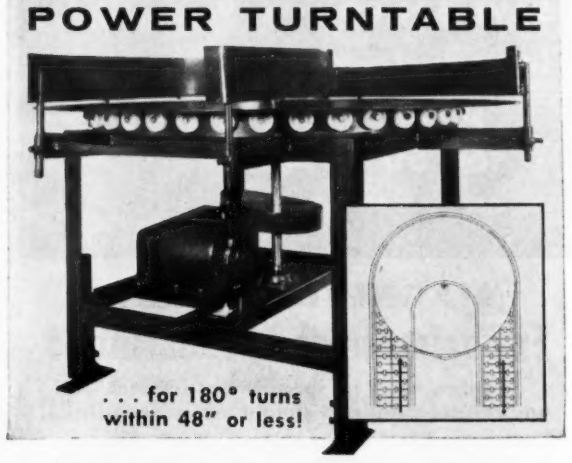
→ Recommended by eminent ear specialists, the EAR-VALVS contain 18 precisioned, watch-like parts, completely hand assembled in tiny unbreakable cylinders. They are cushioned with non-allergenic, non-toxic Silicone rubber ear-inserts to guarantee healthful comfort and durability. A request on your company letterhead will bring you a trial pair on a 30-day return or purchase basis.

Sigma Engineering Co., 1608 Hillhurst Ave., Dept. 12, Los Angeles 27, Calif.

(Advertisement)

▲ For more details circle **NED-536 E1** on enclosed inquiry slip ▲

NEW METZGAR POWER TURNTABLE



● Motor-driven, circular steel table rides noiselessly on bed of Metzgar Nylo wheels ● Can be equipped with single or multiple entry and departure points for any turn or turns up to 180° ● Steel guide rails to maintain alignment ● Costs much less than power belt or live roller installation effecting same degree of turn ● Standard table diameter 48" — smaller or larger models to your specs.

SEE YOUR METZGAR REPRESENTATIVE OR WRITE FOR FULL DETAILS

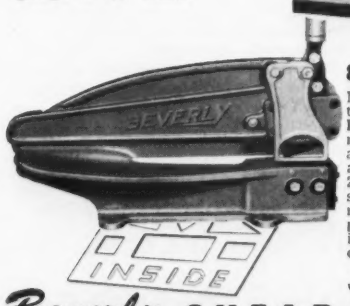
METZGAR CONVEYOR CO.
416 Douglas St. N.W., Grand Rapids 4, Mich.

WHEEL & ROLLER GRAVITY CONVEYORS • LIVE ROLLER CONVEYORS
POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

▲ For more details circle **NED-537 E1** on enclosed inquiry slip ▲

BEVERLY SHEARS SAVE TIME·LABOR·MATERIAL

Make any cut—curved, straight or irregular, faster, easier and better with less material waste on a Beverly Throatless Shear. You can turn work to *any* position and make a clean cut as you go. Handles heavy gauges with ease—lighter metals without distortion. 4 models—capacities 18 gauge to 3/16" mild.



INSIDE SLOTTER
8" Reach—16 ga. capacity

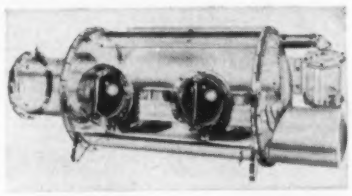
Makes inside slotting cutting faster, easier, cleaner. Punch and die arrangement of 5 blades assures accuracy, clean cutting action. Cuts 2½" x ⅛" or 2½" x 1/16" slot at one stroke. Throat design permits pivoting work at any point in stroke for special inside cuts. Note sample cuts at left.

See your Beverly Dealer or write for illustrated catalog.

Beverly SHEAR MFG. CO.
3016 W. 111TH STREET • CHICAGO 55, ILLINOIS

▲ For more details circle **NED-538 E1** on enclosed inquiry slip ▲

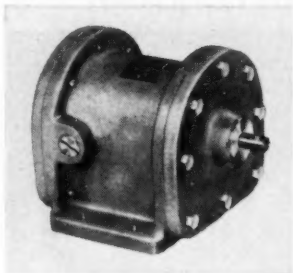
VACUUM GLOVE BOX of ⅝-in. thick Plexiglas



Visibility at every angle is afforded by cylindrically shaped vacuum glove box of ⅝-in. thick Plexiglas. It features welded construction, 24-in. diameter side entry, and dome cover plates, can withstand full vacuum, and allows safe introduction of any controlled atmosphere. O-rings assure leakproof performance. Plexiglas is unaffected by most inorganic solutions, mineral and animal oils, low concentrations of alcohol, paraffinic and olefinic hydrocarbons, amines, alkyl monohalides, and esters containing more than 10 carbon atoms. ● **Manostat Corp.**, 26 N. Moore St., New York 13, N. Y.

▲ For more details circle **NED-539 E1** on enclosed inquiry slip ▲

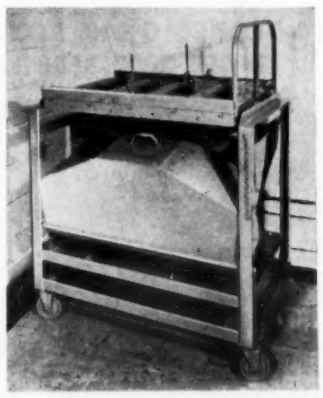
EXPLOSIONPROOF SPEED SWITCH for driven speeds up to 1800 rpm



Shaft driven Dazic zero speed switches consist of modified standard units enclosed in an explosion-proof housing. Units have Micro Switch single-pole double-throw snap-action contacts rated 10 amp at 125, 250, or 460 v ac. Controls are designed for driven speeds to 1800 rpm, and various contact trip-in and drop-out speeds are available. They operate in ambients from −20 to 200° F. ● **Winterburn Mfg. Co.**, 11 Whittemore St., Putnam, Conn.

▲ For more details circle **NED-540 E1** on enclosed inquiry slip ▲

DUMP CART & HOPPER handles parts for heat treating

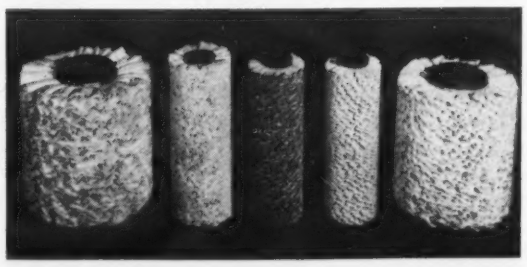


Dolly with a tilting roller platform and a hopper comprise this combination dump cart and hopper for handling small parts during heat treating operations. Basket of parts is rolled onto the platform and clamped into position, with a drain pan collecting excess quenching oil. The platform is rotated to pour parts into the hopper. An opening in the narrow end of the hopper chute feeds parts at a controlled rate into tote boxes or other containers. Unit is rolled into position to manually load or unload a battery of furnaces. ● **Ipsen Industries, Inc.**, Dept. 21, Box 500, Rockford, Ill.

▲ For more details circle **NED-541 E1** on enclosed inquiry slip ▲

BUFFING WHEELS with continuous spiral construction

Spyrl-Roll buffing wheels are tailor-made from one continuous strip of buffing material of either finger or standard bias type, in cloth or sisal, and in various



densities. Buffing element rotates against work in one cutting action while its sideways movement, due to the helical construction, provides a second cutting action. Streaking of work is eliminated. Buff is provided in cartridge form for mounting on key-way shafts and is particularly adaptable for use on machines where work traverses the face of the buff. Buffs are developed to meet user's needs in widths up to 45 in. and diameters from 41 to 20 in. ● **Geo. R. Churchill Co.**, 28 Churchill Rd., Hingham, Mass.

▲ For more details circle **NED-542 E1** on enclosed inquiry slip ▲

SAFER HANDLING of INDUSTRIAL LIQUIDS!

Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8′ hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.

TOKHEIM High-Vacuum HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim International, A.G., Lucerne, Switzerland; GenPro Inc., Shelbyville, Indiana; Tokheim of Canada, Ltd., Toronto, Ontario

▲ For more details circle **NED-543 E1** on enclosed inquiry slip ▲

This Hopper on your truck CAN CUT HANDLING COSTS 50%

One man with a lift truck can cut handling time and effort in half with Roura *self-dumping* hoppers. Pull a latch and the Hopper *automatically* dumps itself, rights itself, locks itself. Thousands of Roura Hoppers are now in use handling scrap metal, hot forgings . . . in fact, *any* bulk material or component parts. Eight sizes, ⅓ to 4 yards capacity . . . made of steel plate, stainless or galvanized. Standard models shipped from stock. For detailed specifications, write:

ROURA IRON WORKS, INC.
1415 Woodland Avenue,
Detroit 11, Michigan.

ROURA *Self-Dumping* **HOPPER**

▲ For more details circle **NED-544 E1** on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

GIVES YOU AUTOMATIC PROCESSING OF METAL PARTS

LABOR SAVING
READILY ADAPTABLE TO MANY OPERATIONS
NO NESTING OF PARTS DURING CLEANING OR CONDITIONING CYCLE
ADJUSTABLE CAPACITIES
ELECTRIC—GAS—STEAM HEATING ELEMENTS

The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

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Simplicity TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.

FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

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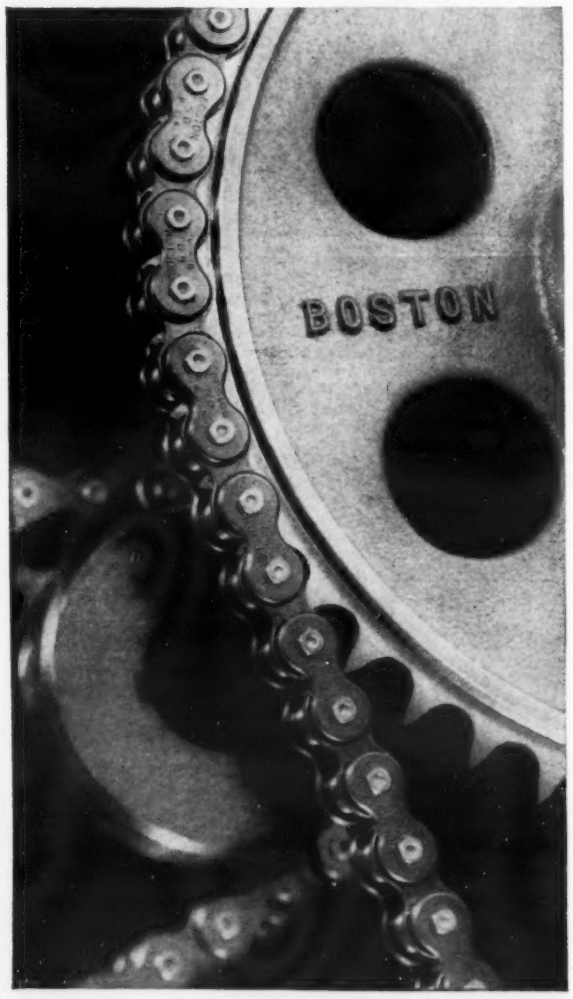
Wheel Horse Tractor Power
saves manhours on all lawn care

Speedy tractor mows, rakes, hauls, clears snow and spreads sand. Job-suited attachments incl. 3-gang reel mower that cuts 5-ft. swath, all-steel dump trailer, heavy snow-dozer blade. In models to 7 hp., Wheel Horse has unmatched power for its size—a transmission with 108-to-1 gear reduction. Its all-gear drive offers 3 speeds forward, plus reverse—to 6 mph. Wheel Horse maneuvers most anywhere; costs little to run. Special features: electric starting, all-purpose tread tires. FREE booklet shows uses, gives specifications. Write: **Wheel Horse Products**, 51455 U. S. 31, South Bend 17, Ind. *Advt.*

▲ For more details circle **NED-546 E1** on enclosed inquiry slip ▲

BOSTON Gear® QUALITY

sprockets and chain



1488 types and sizes. From local stock off the shelf – at factory prices

For any chain drive ¼" to 2" pitch – Roller, Block, Ladder. See Catalog 57. Bored-to-size pinions – 86 sprocket sizes with 360 bore sizes. Ready to install. Design around the quality leader.

IN STOCK at your nearby DISTRIBUTOR

BOSTON Gear®

© Boston Gear Works, 1961
Quincy 71, Mass.

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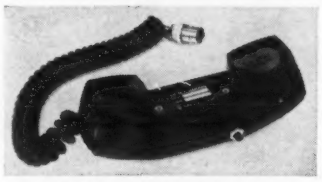
SECURITY TELEPHONE
scrambler handset for mobile radio



Voice security over radio-telephone networks is afforded by the Security Telephone "scrambler" handset available for FM mobile radios. The Model 106 handset plugs into any standard FM mobile radio at fixed stations as well as mobile vehicles. Operator can broadcast in either "scramble" or "clear" by moving a selector switch. Permanent type Model 206 can be attached to radio control unit at master station, or under instrument panel. The transistorized handset resembles an oversized telephone handset and weighs 24 oz. All versions are coded with one of several electronic codes. Portable and permanently mounted units cost $249 and $289, respectively. • **Delcon Corp.**, 943 Industrial Ave., Palo Alto, Calif.

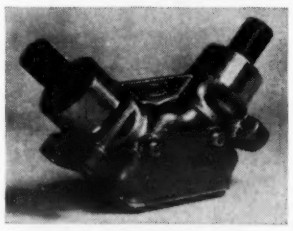
▲ For more details circle **NED-548 E1** on enclosed inquiry slip ▲

MICROFILM APERTURE CARDS
diazo film produces sharp prints

Orange in color, the improved Duplicard duplicate microfilm aperture card is made of paper stock that is edge-coated to prevent fraying. It is used for making duplicates of original Filmsort aperture cards and employs a diazo film which produces clear images on reader screens and sharp prints. They are used in the 3M Filmsort Uniprinter 041 automatic aperture card copier which turns out Duplicards at a rate of 2000 per hour. Price is less than 5 cents each. • **Minnesota Mining & Mfg. Co.**, Dept. C1-149, 900 Bush Ave., St. Paul 6, Minn.

▲ For more details circle **NED-549 E1** on enclosed inquiry slip ▲

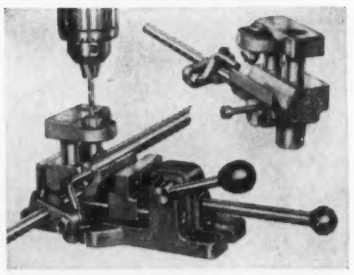
90-DEGREE GEAR BOX
in 500, 2000, 3500 lb-in. torques



Completely enclosed 90-degree gear box is suitable for making sharp bends in rotary-type remote control linkages. Unit consists of two spindles with bevel gears supported in needle bearings and enclosed in a cast bronze housing tapped for bolting in place. It is offered in 500, 2000, and 3500 lb-in. torque capacities with spindle stub shafts either keyed or splined in whatever size is required for attaching to rod controls or flexible shafting. Spindle stub shaft diameters of ⅝, 1, and 1¼ in. are available. • **Stow Mfg. Co.**, 26 Shear St., Binghamton, N. Y.

▲ For more details circle **NED-550 E1** on enclosed inquiry slip ▲

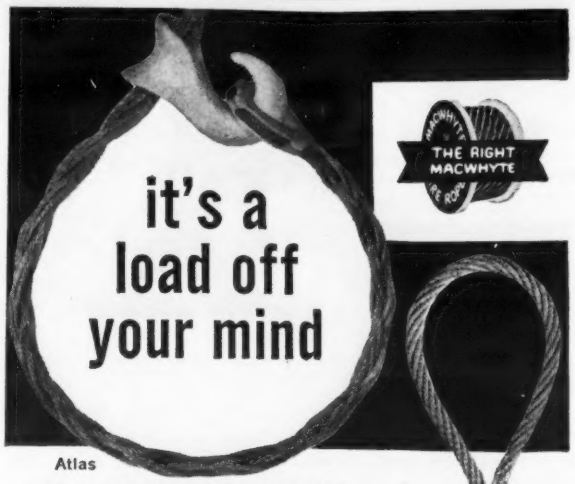
DRILL JIG ATTACHMENT
low cost unit converts vises for holding round or hex work



Precision cross hole drilling is possible in a Grip-Master vise converted into an adjustable drill jig with the Vise-Jig attachment. It attaches to the stationary vise jaw in place of the removable jaw insert, and can be locked and unlocked with one hand. Adapter liner in the clamping plate is accurately centered above the 60-degree V-block and holds ASA slip bushings. An adjustable stop with 9-in. long rod locates work longitudinally.

Model 3-UJ for all Heinrich vises holds ⅛ to ¾-in. round or hex stock and has a 5/16-in. ID adapter liner which holds bushings for 0.0312 to 0.1935-in. holes. Model 6-UJ fits 6 and 8-in. vises, holds ¾ to 2-in. stock, and is furnished with 5/16, ½, and ¾-in. adapter liners holding bushings for a 0.0312 to 0.5312-in. hole range. • **Heinrich Tools, Inc.**, 2707 Industrial Dr., Racine, Wis.

▲ For more details circle **NED-551 E1** on enclosed inquiry slip ▲



Atlas

Safe-Guard

—when your sling is the right Macwhyte

There are Macwhyte slings for all your load-handling — for a safe, sure grip. Atlas round-braided, Drew flat-braided, and Safe-Guard cable-laid slings are flexible, lightweight, kink-resistant. Also slings designed for your special needs. For complete information and capacity tables, ask for Bulletins 5308-R and 5886 Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

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MACWHYTE

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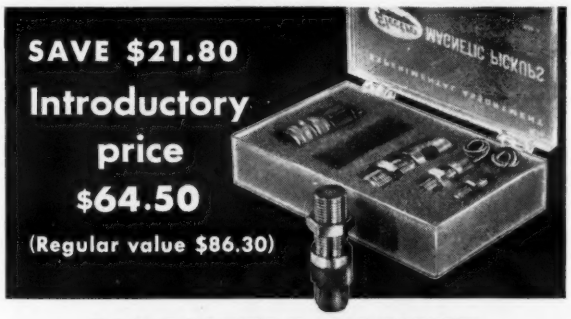

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Experimental Assortment

Solve 100's of speed measurement and control problems simply and economically

Electro Magnetic Pickups generate voltage/frequency in proportion to the speed of any ferrous metal objects interrupting their magnetic field . . . *without* physical contact. They actuate electrical or electronic circuitry, counters, relays, etc.

Complete with 4 pickups, AN connector, plastic box, operating instructions and performance data.

A few of 100's of applications
- Indicate • Synchronize
- Control • Actuate instruments
- Provide data for telemetering

Order SK-80 Assortment Today, or Write for Information.

Electro 1936-1961 25th Anniversary 1237

ELECTRO PRODUCTS LABORATORIES
4501-X Ravenswood, Chicago 40, Illinois
Canada: Atlas Instrument Ltd., Toronto

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NEW FROM ROCHESTER INSTRUMENTS...

NOW!

The first direct-action differential pressure gauge

Simply designed, this gauge measures pressure drop between two points, or will indicate flow in a system. The system pressure exerts its force against the bottom side of the diaphragm while the downstream pressure is exerted against the top of the diaphragm. The resulting difference (pressure drop) is mechanically transmitted through an "O" ring type seal to a unique linkage system to move the pointer and indicate "Differential Pressure" on the dial. A heavy-duty restrained diphragm type indicating gauge, its differential pressure range is 0-15 psi through 0-150 psi. The maximum system pressure is 150 psi. Dials may be zoned or calibrated with 10-0-10 through 75-0-75 scales available. Stem front flange or panel mount.

Write for complete information, Cat. Sheet No. DPI-60.
American Standard, Controls Division
Rochester Instrument Plant
114 Rockwood St., Rochester 10, N. Y.

AMERICAN-Standard
CONTROLS DIVISION

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ARNOFOAM®

• INSULATES
• SEALS • CUSHIONS

- Polyurethane foam tape with pressure sensitive adhesive
- Thousands of non-connected air cells—density only 2 lbs. per cubic foot
- Insulates against heat and cold
- Deadens sound
- Seals out dust, dirt
- Absorbs shock and vibration, no bounce-back
- Waterproof, vaporproof
- Resists acids, grease, solvents

Available in 1/8", 1/4" and 1/2" thicknesses, widths from 1/4" to 36". Write for data.

ARNO ADHESIVE TAPES, INC. 5219 Ohio St., Michigan City, Ind. Dr. Scholl's Adhesive Tape Division

MANUFACTURERS AGENTS WANTED FOR SOME SELECTED AREAS

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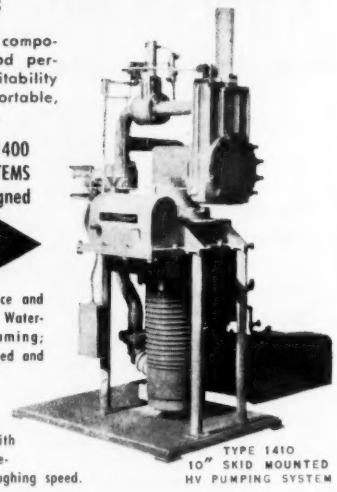
NEW **There IS a Difference**

in HIGH VACUUM PUMPING SYSTEMS

Complete, Factory-Assembled, Tested Pumping Systems

Using only high vacuum components of demonstrated good performance, reliability and suitability . . . Skid mounted or portable, ready for quick installation.

GENERAL VACUUM SERIES 1400 DIFFUSION PUMPING SYSTEMS Incorporate specially designed TWO-STAGE TRAP with Liquid-Nitrogen and Water-Cooled Baffles



TYPE 1410 10" SKID MOUNTED HV PUMPING SYSTEM

This trap provides high conductance and low liquid-nitrogen loss rate. Water-cooled stage reduces backstreaming; liquid-nitrogen stage increases speed and lowers blank-off.

Series 1400 Pumping Systems give you the perfect Pumping Package in sizes from 2" to 32" with high speed backing pumps, or mechanical boosters for maximum roughing speed.

Manual or Automatic Controls. Maximum Accessibility.

Literature on Request

GENERAL VACUUM CORPORATION

HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

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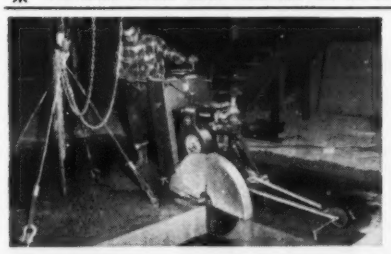

TRUCO® DOES IT AGAIN!

Makes history by sawing 11½" thick, 5000 lb. test concrete reinforced with 2 layers of ½" rods on 8" centers. Big slab sawed out in 3½ hrs.

PROJECT: Wind tunnel at government research base. **CONTRACTOR:** Nash Drilling Co., Ltd., Montreal, P.Q. **EQUIPMENT:** Truco 18 H.P. Economy Concrete Saw; Truco Tru-Bond Diamond Blade 26" dia. 3/16" thick. **JOB:** Cut an inspection opening 10'0" x 5'0" in 5000 lb. test concrete reinforced with 2 layers of reinforcing rods ½" dia., placed on 8" centers. Slab was marked off in two 5' x 5' sections, and 3" holes drilled in the four corners of each section to receive fastenings for cables to support slabs. Four cuts released the first slab for removal. Three more cuts released the second slab. The 26" dia. Truco Diamond Saw made a 10½" cut and the remaining concrete on the wavy underside (about 1") easily broke away when the slab was lifted. Actual cutting time was only 3½ hours and the entire job was easily done in one day. Savings are so great Truco Diamond Drilling and Sawing Equipment may pay for itself on a single job or in a single day. Send for new Truco catalog.

MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL COMPANY
2108-3200 W. Davison, Detroit 38, Mich. • 575 Langlois, Windsor, Ont.

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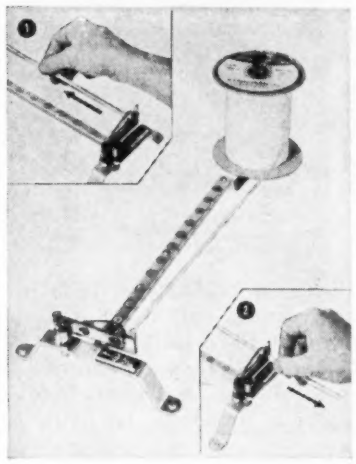
RUBBER-COVERED IMPACT DOOR with full-length rubber hinge

Tests show that Durador rubber-covered impact doors will withstand tens of thousands of impact openings without wearing, warping, or corroding. Door consists of a core of warp-resistant 3/8-in. marine plywood covered by a permanently bonded 1/4-in. live-rubber coating at the bottom half and 1/8-in. coating at the top half. Leading edge is protected by a 3/8-in. rubber layer. Door absorbs rather than resists impact by fork trucks and functions silently. • **Clark Door Co.**, 515 Hunterdon St., Newark 8, N. J.

▲ For more details circle NED-558 E1 on enclosed inquiry slip ▲

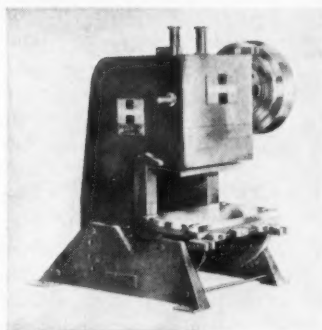
BUNDLING MATERIAL CUTTER for reinforced tape, wire, and cord



Cheaper bulk spool lengths of tying and bundling materials can be used with this inexpensive measuring cutter, eliminating need for stocking and selecting various precut lengths for different uses. Designed primarily for use with wire-reinforced paper or plastic ties, it will also cut such bundling materials as ribbon, reinforced tape, wire, and cord. Equipped with a swinging cutting arm, the bench or wall mounted unit sells for $7.95. • **H. F. Hanscom & Co.**, Dept. NR, 1 Virginia Ave., Providence 5, R. I.

▲ For more details circle NED-559 E1 on enclosed inquiry slip ▲

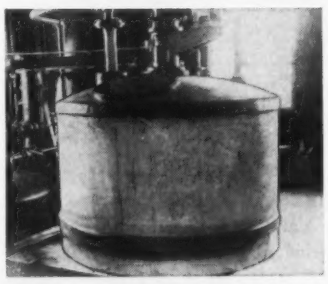
125-TON OBI PRESS has 30 x 44-in. die area



Largest Havir Press-Rite in line is this 125-ton OBI press which features a 30 x 44-in. die area, shut height of 17 in., and a 4-in. stroke. Offered in air-clutch flywheel or back-geared models, press has 28-in. opening in the back of the frame with throat depth of 16 in. Safety features of the single-stroke press include a Rotomer. The Airflex drum-type air clutch is mounted on the crankshaft to keep the mass in motion. Less flywheel slowdown occurs at engagement. Press inclines at 0, 10, 20, and 30 degrees. • **Havir Mfg. Co.**, 444 Cleveland Ave. S., St. Paul 4, Minn.

▲ For more details circle NED-560 E1 on enclosed inquiry slip ▲

PROCESSING VESSELS 50 to 70,000-gal glass-plastic units



Corrosion resistance and self-supporting structural strength are combined in glass fiber-plastic processing vessels. Ten diameters are available with capacities ranging from 50 to 70,000 gal. Precision molding produces a glass-smooth inner surface. Basic tank is translucent, and liquid level is always visible during batching and processing. Direct reading gage is molded in. All tubing and fixtures, such as agitator and plate coils, are corrosion resistant. Model shown extends between floors for processing reasons. • **Jones & Hunt, Inc.**, Gloucester, Mass.

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See Your COST DIFFERENCE with this DIFFERENT FINISHING MEDIUM

Replace Older, Costlier Methods!

Brightboy's exceptional rubber-and-abrasive working action is breaking cost barriers NOW for countless users:

BURRING • CLEANING • FINISHING • POLISHING
—in one simultaneous operation
TIME SAVINGS UP TO 50%

Brightboy's bigger savings bring bigger profits! JOB-MATCHED, quickly available Brightboy items are STOCK, for immediate use, without time-taking dressing or preparation. For machine, automation and manual operations.

This only complete line of soft rubber bonded abrasives possess almost unbelievable versatility for working:

ALL METALS • WOOD • GLASS • FIBERGLASS • LAMINATED MATERIALS • SOME PLASTICS

WIDE RANGE of Silicon Carbide and Aluminum Oxide STOCK TEXTURES—extra fine to extra coarse—in soft, semi-firm, firm and tough rubber binders.

START GREATER SAVINGS & PROFITS NOW
WRITE FOR BRIGHTBOY'S CATALOG-MANUAL covering:
- Methods & Applications • Machine Speeds
- Job-Matched Wheels, Sticks, Rods, Blocks & Points
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WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.

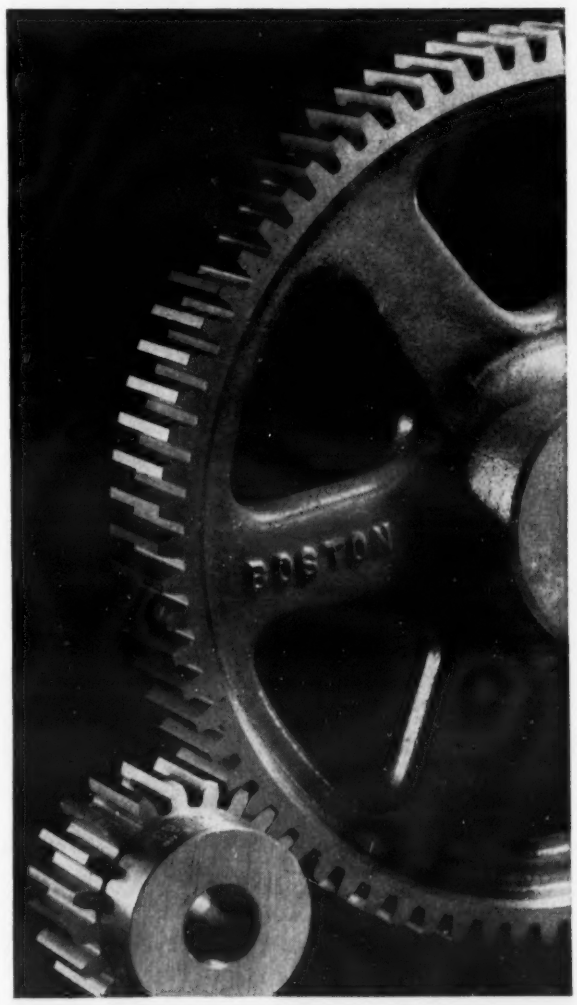
America's Pioneer Manufacturer of Rubber-Bonded Abrasives.

WELDON ROBERTS **Brightboy** RUBBER CUSHIONED ABRASIVES

▲ For more details circle NED-562 E1 on enclosed inquiry slip ▲

BOSTON Gear® QUALITY

14½° stock gears 20°



Design around gears you can get today
Largest selection – off the shelf

1781 types and sizes 14½° P. A. – 48 to 3 pitch.
782 types and sizes 20° P. A. – 120 to 4 pitch.
Spur, bevel, miter, spiral miter, worm, helical, rack, pinions, internal.
Brass, steel, iron, nonmetallic. See Catalog 57.

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BOSTON Gear®

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Quincy 71, Mass.

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Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of
American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

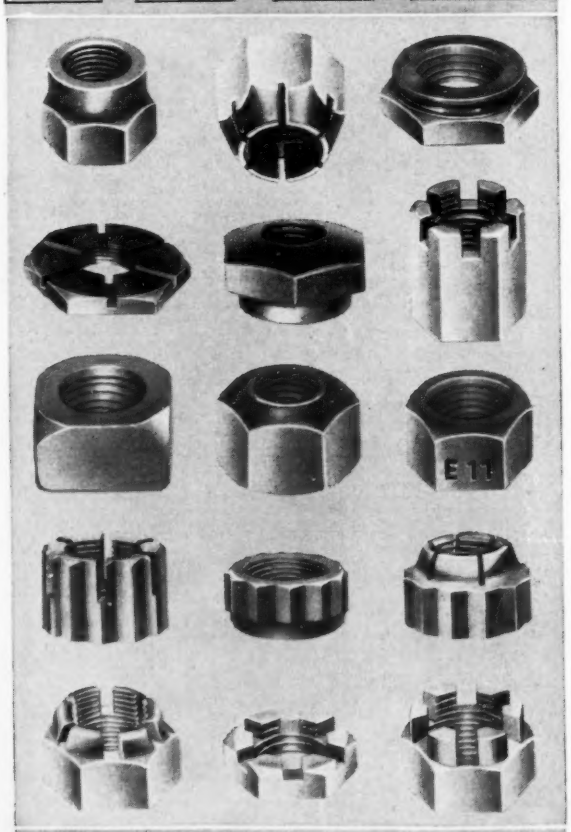
Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

▲ For more details circle NED-564 E1 on enclosed inquiry slip ▲

SPECIAL NUTS

to specs. 3/8" - 4-1/4" cross flats

special machines + large stock of material x years of experience = speedy deliveries high quality low prices



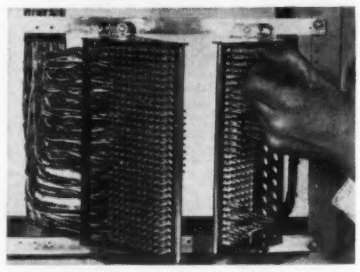
Here are a few samples made to customers specifications . . Our batteries of special high-speed multi-spindle, automatic machines make possible fast and accurate production of hexagon nuts of non-standard height and special shape from carbon or alloy steel, Naval bronze or other non-ferrous metals; also AN 310 through AN 335 as per latest Airforce specifications. Very often the special nut you require may be similar to one we are already making and a simple modification would result in a price advantage and quicker deliveries to you . . Send us your blueprint and particulars —let us quote on your requirements . . We also have a catalog that contains complete specifications, engineering data and prices regarding our standard nuts.

*Manufacturer of Standard and Special *12 Pointer, Square and Hexagon Nuts . . . "Huglock" and "Conelok" locknuts.*

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company
44250 UTICA ROAD
UTICA, MICH

▲ For more details circle NED-565 E1 on enclosed inquiry slip ▲

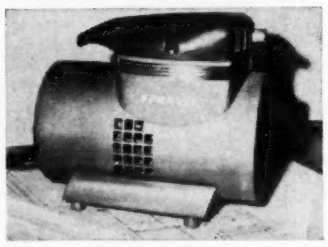
WIRE TERMINAL BLOCK
solderless type has 300 male pins



Connecto-Blok solderless wire terminating device with up to 300 male pins can be used as a multipin connector, terminal block, or both at the same time. Electrical connection between two wires is made by crimping a female tab terminal on each end of the wires, and in turn plugging the terminals on opposite ends of a male pin located on the block. Terminal blocks are offered for use in audio and control circuits as well as for video and pulse circuits. A hand tool or a bench type machine is used for crimping. Terminal concentration can be up to 50 per cent higher than on tree-type solder blocks. • **Thomas & Betts Co.**, 36 Butler St., Elizabeth 1, N. J.

▲ For more details circle NED-566 E1 on enclosed inquiry slip ▲

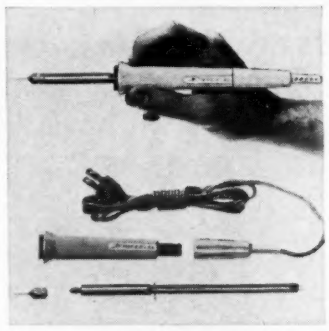
MOTOR-COMPRESSORS & PUMPS
deliver 1 to 3 cfm at 10 to 40 psi



Line of integral motor-compressors and compressor pumps for use as air sources in insecticide sprayers, pneumatic tools and controls, door openers, conveyor equipment, and lab equipment includes this Sprayit No. 90 diaphragm type 115-v unit. This silent, 10-lb integral motor-compressor measures only 8 x 8 x 5 in. Ratings range from 1 cfm at 10-15 psi to 3.0 cfm at 40 psi. Compressor pumps range from 2.6 cfm to 9.2 cfm displacement at up to 150 psi. • **Thomas Industries Inc.**, Sprayit Div., 207 E. Broadway, Louisville 2, Ky.

▲ For more details circle NED-567 E1 on enclosed inquiry slip ▲

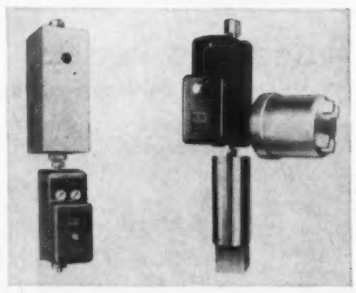
SOLDERING IRON
with interchangeable components



Completely interchangeable components of this Imperial soldering iron include 42 Mini-Tip thread-on soldering tips available in iron-clad 24-karat gold plated, Armco iron, and tellurium copper. Also available are 25, 30, and 40-w heat cartridges; three pastel colored Perma-Cool handles; and standard two-wire grounded three-wire color-keyed cord sets. Handle surface remains at body temperature even after day-long use. All components can be purchased separately. • **Eldon Industries, Inc.**, Ungar Electric Tools, Electronic Div., 1475 E. El Segundo Blvd., Hawthorne, Calif.

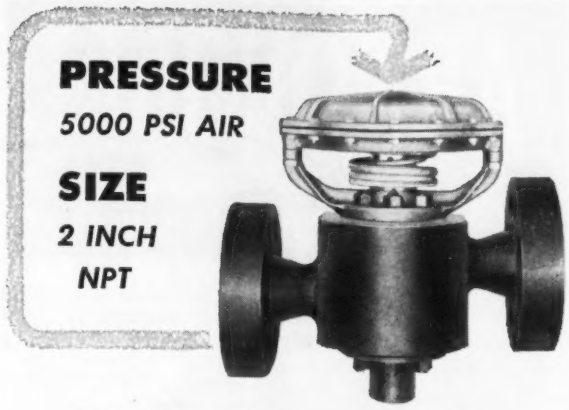
▲ For more details circle NED-568 E1 on enclosed inquiry slip ▲

TRANSMITTING ROTAMETERS
for pressure flows to 50,000 psi



Reportedly the first variable-area-type flowmeters offered for super-pressure service up to 50,000 psi, series of transmitting rotameters makes possible direct measurement of high-pressure flows previously considered unmeasurable. The 3613 Series meters are made in four sizes with flow capacities from 0.90 to 47.0 gpm. High flow capacities in any given size can be achieved by installing the meter in a by-pass, with an orifice plate in the main pipeline. Meter bodies are one-piece forged of 304, 316, 400, or 4300 Series stainless steel, or K-Monel, depending upon pressure demands. Extensions can be supplied for electric or pneumatic transmission, alarm signaling, integration, or indication only. • **Brooks Instrument Co.**, W. Vine Street, Hatfield, Pa.

▲ For more details circle NED-569 E1 on enclosed inquiry slip ▲



Sinclair-Collins' diaphragm-operated high pressure valves provide fast and positive control of ultra-high pressure air, tight sealing, compact size, ample safety factors.

Available size, 2 in. NPT; flanged mounting; 2-way normally open or normally closed; for direct or remote electro-pneumatic control. Ask your Sinclair-Collins Field Engineer for specific recommendations.

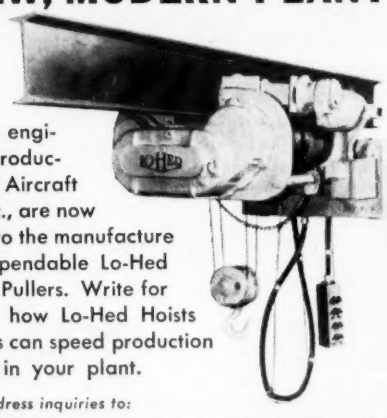
For more information, write for free Bulletin S-C 59. Address Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-561.

8169

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

▲ For more details circle NED-570 E1 on enclosed inquiry slip ▲

AE LO-HED® HOISTS
NOW IN PRODUCTION
IN A NEW, MODERN PLANT



The advanced engineering and production facilities of Aircraft Armaments, Inc., are now being applied to the manufacture of rugged, dependable Lo-Hed Hoists and Car Pullers. Write for full details on how Lo-Hed Hoists and Car Pullers can speed production and cut costs in your plant.

Please address inquiries to:

AE INDUSTRIAL DIVISION
AIRCRAFT ARMAMENTS, INC.
Post Office Box 6853, Baltimore 4, Maryland

CLEVELAND DISTRICT: A.E. Company, 1157 Leader Bldg., Cleveland 14, Ohio
N. Y. DISTRICT: AE Industrial Division, 1 Exchange Place, Jersey City 2, N. J.

▲ For more details circle NED-571 E1 on enclosed inquiry slip ▲

KENDALL/GOVERNAIRE

SEND FOR CATALOG ON

PRECISION AIR REGULATORS

Large balanced supply and relief valves provide rapid response with precise control plus maximum flow for minimum size.

Kendall is a direct acting, spring actuated, bleed type valve. Governaire is pilot assisted. Both lines have a unique boost action with increased flow rate that offsets downstream pressure losses. Both are immune to supply pressure variations and suited to either high-flow or dead-end applications. With the Kendall/Governaire lines, Stratos offers the largest selection of standard and special precision pressure regulators, relays and volume boosters in the industry.

For your copy of the Stratos Engineering Manual and Data Sheets illustrated above, write

STRATOS®
A DIVISION OF FAIRCHILD ENGINE & AIRPLANE CORPORATION
Bay Shore, L. I., N. Y.

▲ For more details circle NED-572 E1 on enclosed inquiry slip ▲

the penetrating force of...

COLD STEAM

CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks' water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$12.95

● ***NEW . . . Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.***

HYDRO-AIR PRESSURE WASHER

BLASTS STUBBORN DIRT! HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

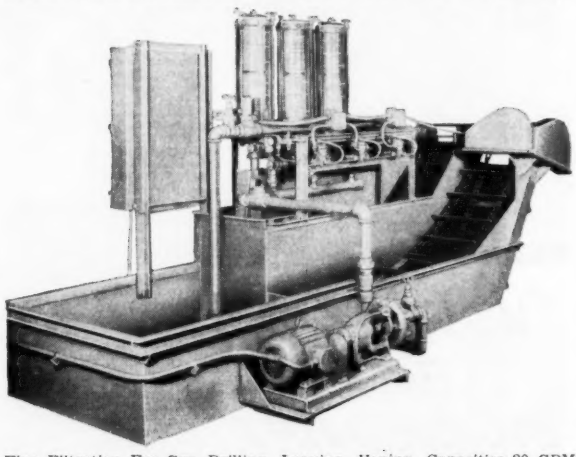
D & M PRODUCTS, INC.
26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

▲ For more details circle **NED-573 E1** on enclosed inquiry slip ▲

COMBINATION SUCTION SCREEN AND BACK-FLUSHING CARTRIDGE FILTER



Fine Filtration For Gun Drilling, Lapping, Honing. Capacities 20 GPM to 500 GPM. Suction screen filter removes majority of solids. Liquid is then filtered through paper pleated cartridges to remove solids to 5, 20 or 40 microns. Cartridges are backflushed as required to maintain flow rate, either by hand or automatically. Unit is conveyorized for removal of solids. Backflushing principle permits economical fine filtering. Rugged construction, low maintenance.
Our years of experience can assist you with single or central system applications.

HENRY AUTOMATIC
Manufactured by HENRY MANUFACTURING CO. INC.
503 East Reed Street
Bowling Green, Ohio

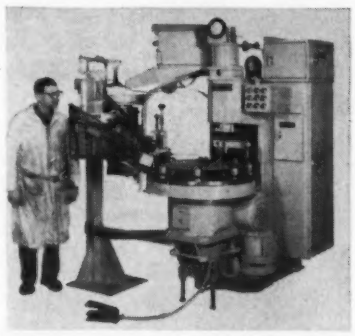
▲ For more details circle **NED-574 E1** on enclosed inquiry slip ▲

ALL materials from plastics to carbides, including special alloys . . . all sizes, standard and special, from .005" to 24" . . . hollow balls . . . modified balls . . . ball segments . . . in all quantities. *Write for quotation and bulletins.*

INDUSTRIAL TECTONICS, INC.
ITI
MANUFACTURERS OF PRECISION BALLS AND BEARINGS
BALL DIVISION: 3686 JACKSON RD.
ANN ARBOR 3, MICHIGAN

▲ For more details circle **NED-575 E1** on enclosed inquiry slip ▲

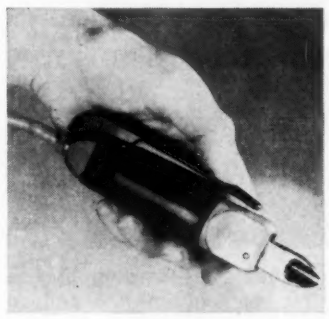
DIAL FEED WELDER
turns out 2500 parts per hour



Arranged with an eight - station dial feed unit and hopper feeders for power transistors, this press type air and toggle motor driven welder has a production of 2500 indexes per hour. The welding transformer has eight steps of heat regulation plus a series-parallel tap switch to give 16 transformer tap settings for various jobs. Each of the lower die units as well as the upper die unit are water cooled and have replaceable copper alloy die inserts. Parts are ejected automatically. ● **Federal Machine & Welder Co.**, 212 Dana St., Warren, Ohio.

▲ For more details circle **NED-576 E1** on enclosed inquiry slip ▲

PNEUMATIC WIRE CLIPPERS
cutting head rotates 180 degrees

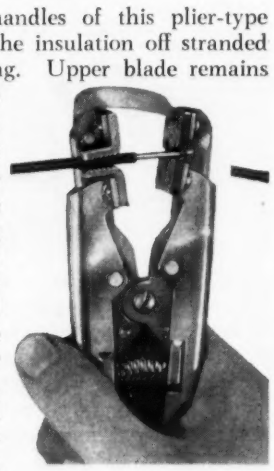


A fraction of the pressure required to use hand pliers will operate Air-Nips pneumatically powered wire clippers. Weighing only 6 oz and designed for production wire trimming, they will cut soldered portions of 14-gage copper wire cleanly. The pointed cutting head can be rotated 180 degrees to get at hard-to-reach leads on printed circuit boards. Shop air line or a ¼-hp compressor supplies power. ● **Chicago Pneumatic Tool Co.**, 6 E. 44th St., New York 17, N. Y.

▲ For more details circle **NED-577 E1** on enclosed inquiry slip ▲

WIRE STRIPPER
strips solid and stranded wire

A single squeeze on the handles of this plier-type wire stripper cleanly strips the insulation off stranded or solid wire without nicking. Upper blade remains stationary, while lower one moves up and down in a milled slot. V-notches in the stripping blades assure perfect alignment of the stripping holes. Crushing of stranded wire is prevented by an arm which automatically drops down to hold jaws open. A second squeeze releases the arm, and stripper is ready for the next wire. Model AS-02, AS-2, and AS-3 respectively handle 22-10, 18-10, and 14-8 wire. Price is $5.65. ● **Holub Industries, Inc.**, 430 Elm St., Sycamore, Ill.



▲ For more details circle **NED-578 E1** on enclosed inquiry slip ▲

PICK-UP SWEEPER
attaches to lift truck forks

Parking lots, streets, sidewalks, loading docks, ramps, and other industrial plant and warehouse areas can be swept with this pick-up sweeper which mounts on the forks of any lift truck. Sweeper has a hydraulically - driven broom which is adjustable for wear. Power is taken from a tilt or side shifting cylinder. Waste swept into the dust pan is hydraulically lifted and dumped into a truck or container. Unit floats on three shock absorbing casters and has full floating mounting tabs which allow it to follow the surface contour. Options include a gutter brush attachment for sweeping close to curbs and walls and a water tank and sprinkler system to control dust. ● **Mars Industries, Inc.**, Crystal, Minn.

▲ For more details circle **NED-579 E1** on enclosed inquiry slip ▲

RUGGED
GENERAL ELECTRIC
FOOT SWITCH

You get really rugged, cast-iron construction with General Electric's CR150 Foot Switch. Available in single- and two-stage forms, the switch is water-, oil-, and dust-tight—and will not skid unintentionally during operation. Use this switch wherever hands must be freed for other work . . . for instance, punch presses, riveting and resistance welding machines, and machine tools. Available with optional pedal guard for extra safety.

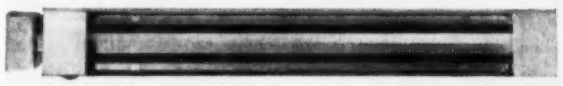
FREE PUBLICATION — Ask your G-E Representative for Publication GEA-7086 or write to Section 813-34, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle **NED-580 E1** on enclosed inquiry slip ▲

HEAT and DRY 10 to 20 times faster with far-infrared VYCOR® heaters



One user of VYCOR heaters cut curing time for cosmetic case coatings from 30 minutes in a hot-air oven to 3 minutes. A brass manufacturer found that VYCOR heaters reduced drying time for curing acrylic paint on copper sheets from 20 minutes to 1 minute. A plastic rack firm cured products in a hot-air convection oven for 30 to 40 minutes—until they found that VYCOR heaters could do the same job in 3 minutes!

VYCOR *heaters can operate continuously for months* without maintenance. They are color blind—heat and dry all surfaces at the same rate. They heat up instantly, create only a 10% current surge, and deliver 23 watts of energy per square inch of work surface.

NEW BULLETIN explains in detail how VYCOR heaters work, contains specifications and applications. Write to Plant Equipment Sales Department, 5605 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

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THE MOST COMPACT VERSATILE

LOW COST PORTABLE CONVEYOR ON THE MARKET

Series "S" Versa-veyor
Speed materials handling jobs, in field or storage areas, up or down stairs. Strong, lightweight aluminum, needs only one man to operate, saves time!

SERIES "S"
. . . eliminates stairway problems! Moves loads up or down fast, without effort.

BEST in portability, easiest to maneuver! Use with or without undercarriage depending on job . . . also as power booster in gravity conveyor lines. Standard 9, 11, 13 and 15-ft. lengths, 12" and 18" wide belts; other lengths and widths available on special order. 250-lb. maximum live load capacity. Write . . . for specifications. Solve your conveyor needs!

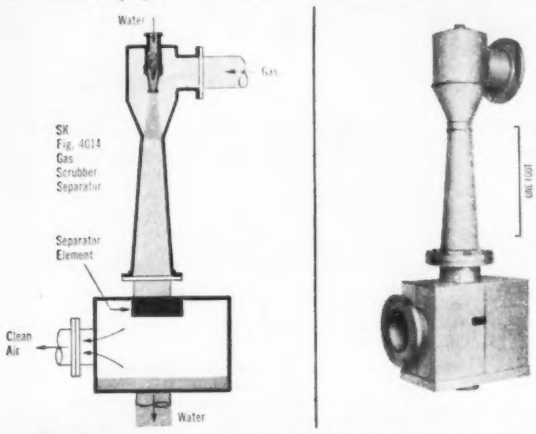
VERSA Corporation
BOX 152, MT. STERLING, OHIO

▲ For more details circle **NED-582 E1** on enclosed inquiry slip ▲

SK Introduces New

GAS SCRUBBER-SEPARATOR

New "packaged" unit offers never-before-obtainable efficiency. Combines SK ejector-venturi scrubber with new separator which reduces liquid carryover to 0.00002 gal. per 100 cfm. Unit, called "Fig. 4014" is low cost, compact. Stocked in popular sizes for immediate shipment.



For details—ask for Bulletin Supplement 4R.

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"
JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

For more details circle NED-583 E1 on enclosed inquiry slip

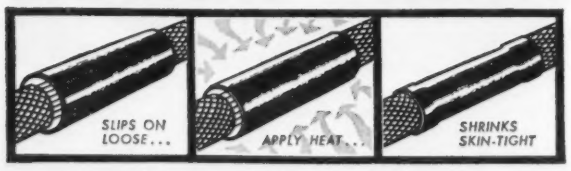
MITY-MIDGET

Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

For more details circle NED-584 E1 on enclosed inquiry slip

NEW INSULATION DISCOVERY SHRINKS WITH HEAT!



Cover . . . protect . . . insulate in minutes with

SCOTCHTITE BRAND HEAT REACTIVE TUBING

Now you can add a tough, smooth, seamless vinyl coat to wires, rods, tubes, even odd shapes with "SCOTCHTITE" Heat Reactive Tubing. Just slip "SCOTCHTITE" Tubing over object to be covered—apply heat—and almost immediately the tubing contracts to form a skin-tight insulating cover. Harness cables, ground straps, bus bars, high voltage leads, and tool handles are just a few of the many possible applications. Available in sizes ranging from 3/64 up to 5¼ inch diameter.

What can you do with "SCOTCHTITE"? Send for free sample and complete information. Write Irvington Division, 3M Company, 900 Bush Avenue, St. Paul 6, Minnesota, Dept. EBM-51.

"SCOTCHTITE" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN. EXPORT: 99 PARK AVE., NEW YORK 16. CANADA: LONDON, ONTARIO.

MINNESOTA MINING AND MANUFACTURING COMPANY
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

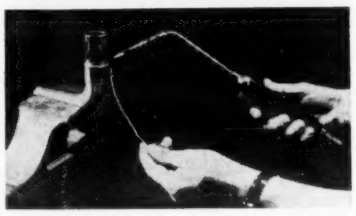
For more details circle NED-585 E1 on enclosed inquiry slip

ENCLOSED JAR MILLS
insulated to minimize noise

Sound control in busy laboratories employing jar mills is aided by this line of sound - insulated jar mills. They consist of a heavy gage steel cabinet with soundproofing linings to enclose the mills. Sound-trap vents dissipate heat generated by motors and mills. Full length door panels mounted on piano hinges afford convenient access to jars, roller mechanisms, motors, and controls. Several sizes are available. Illustrated 6-tier tandem mill handles up to 12 jars or other round containers. • **U. S. Stoneware Co.**, Process Equipment Div., Box 350, Akron 9, Ohio.

For more details circle NED-586 E1 on enclosed inquiry slip

ACETYLENE TORCH
flame triggers on, off automatically



When trigger of the Prest-O-Matic air-acetylene torch is pressed, a battery operated electronic device lights the torch instantly. Releasing the trigger shuts off the gas and flame. Gas consumption is reduced by as much as 80 per cent on stop and go jobs. Torch is suitable for silver brazing, soldering, and for tempering light-gage metals. Kit containing the torch and fine, medium, and large tips is priced at $24.95. • **Navan Products, Inc.**, 900 N. Sepulveda at Imperial, El Segundo, Calif.

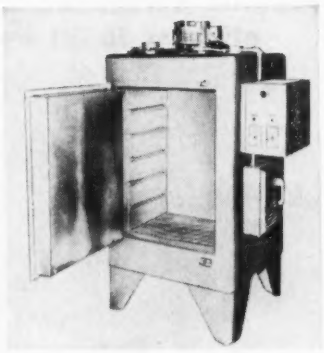
For more details circle NED-587 E1 on enclosed inquiry slip

PISTOL GRIP BLOW GUN
easily-handled 6½-oz unit

Pistol grip of this 6½-oz Schrader aluminum blow gun affords comfortable, easy control in uses ranging from fast drying of work to clearing chips from work tables and removing dirt or oil from dies. Nonpinch trigger meters air from a gentle blow to a wide open blast as needed. Hang-up hook keeps gun out of operator's way when not in use. Gun has a ¼-in. female NPT inlet for standard air line couplings. Nozzle interchanges with other Schrader fittings and can be replaced with pipe thread extensions for directing air to hard-to-reach locations. • **Scovill Mfg. Co.**, A. Schrader's Son Div., 470 Vanderbilt Ave., Brooklyn 38, N. Y.

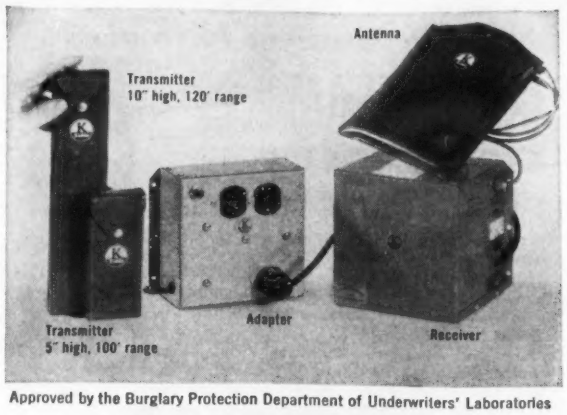
For more details circle NED-588 E1 on enclosed inquiry slip

MULTIPURPOSE OVENS
have ranges to 650 and 1200° F



Models in WOF Line of multipurpose forced convection ovens have ranges from 6 to 45 kw and interior sizes from 24 x 36 x 18 in. to 60 x 72 x 60 in. All operate on 240/480 v, except the smallest which uses 240 v only. Temperature range to 650° F, 750° F for short runs, is suitable for epoxy resin encapsulation and motor bake-out. The HTOF Line ovens, with operating ranges to 1200° F, are available in 9 to 60-kw models, 240/480 v, and the same inside dimensions. Uses include glass annealing and firing and aluminum braze preheating. Both lines are packaged units, have wired-in controls, and include direct drive fan, mineral wool insulation, adjustable air exhaust blast gates, automatic temperature controls, removable shelves, and low watt density heating elements. • **Trent, Inc.**, 211 Leverington Ave., Philadelphia 27, Pa.

For more details circle NED-589 E1 on enclosed inquiry slip



Approved by the Burglary Protection Department of Underwriters' Laboratories

New portable alarm in a pocket-sized package!

Sounds alarms • Turns on lights • Closes doors • Reports hold-ups

Port-O-Larm uses a miniature, pocket-size radio transmitter to signal a fixed receiving unit whenever trouble strikes.

Ideal for use by bank tellers, sales personnel, plant guards or watchmen, the Kidde Port-O-Larm sends a pulsating radio signal to the receiver when the transmitter button is pressed. This causes an alarm to sound either locally, remotely, or at a central alarm station. For full information write Kidde today.

Kidde

Kidde Ultrasonic & Detection Alarms Division
524 Brighton Road, Clifton, N. J.
Walter Kidde & Company, Inc.

For more details circle NED-590 E1 on enclosed inquiry slip

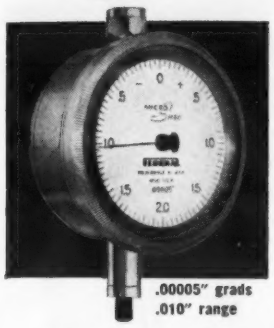
Blood Brothers has solved more complex universal joint problems than any other manufacturer! Our experienced engineers have designed dependable, specialized units for a wide variety of applications from giant rolling mills to power lawn mowers . . . efficient universal joints from a mammoth 162,000 inch pounds torque capacity to 350 inch pounds.

If you manufacture a product needing a universal joint it will pay you to contact Blood Brothers. Our facilities and know-how will build universal joints to your specifications and to the highest quality. For additional information, write today for your free booklet giving specific data on Blood Brothers Universal Joints.

ROCKWELL-STANDARD CORPORATION
Universal Joint Division, Allegan, Michigan

For more details circle NED-591 E1 on enclosed inquiry slip

MICRO Sure... the completely *New*



DIAL INDICATOR

MORE COMBINED ACCURACY AND CONTINUOUS OPERATING RANGE

...than any Electronic Gage

...than any Air Gage

AT A FRACTION OF THE COST!

.00005" grads
.010" range

No dimensional Indicator you have ever known can be compared to the MICRO-SURE Indicator because it represents an *entirely new concept* in Indicator design.

Get the whole story . . . write for brochure!

FEDERAL PRODUCTS CORP.
1175 Eddy Street, Providence 1, Rhode Island

Ask **FEDERAL**® *First*

for recommendations in modern gages... Dial Indicating • Air • Electric or Electronic — for inspecting, measuring, sorting, or automation gaging.

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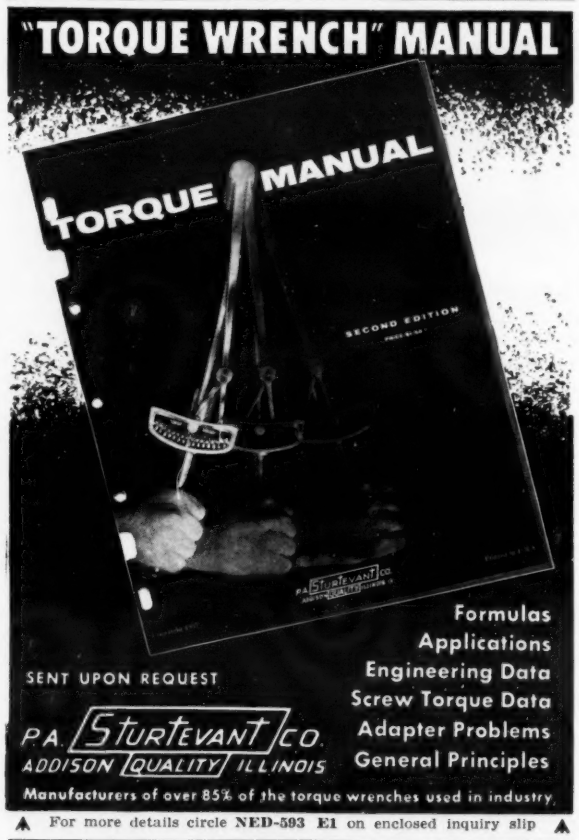
"TORQUE WRENCH" MANUAL



Formulas
Applications
Engineering Data
Screw Torque Data
Adapter Problems
General Principles

SENT UPON REQUEST

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

Manufacturers of over 85% of the torque wrenches used in industry.

▲ For more details circle **NED-593 E1** on enclosed inquiry slip ▲

Save up to ⅓ the cost of your next conveyor!

(FREE HANDBOOK SHOWS HOW)

Handidrive Conveyor Handbook shows how fast and easy you can install your next conveyor . . . how you can save up to ⅓ the conventional cost with "off-the-shelf" ordering and "do-it-yourself" planning and installation.

Describes roller conveyors (both gravity and power), belt conveyors, drive units, intermediate sections, curved sections, supports, hangers, and other needed items . . . all in stock to fill your order fast.

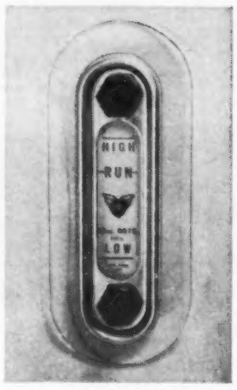
Send today for this valuable new Handbook. No obligation.

Standard Conveyor

310-E Second St., North St. Paul, Minn.

▲ For more details circle **NED-594 E1** on enclosed inquiry slip ▲

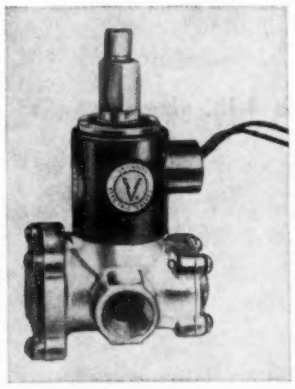
LIQUID LEVEL SIGHT GAGE installed by drilling two holes



Usable even with fire resistant synthetic hydraulic fluids, Model 8575-NON fluid level sight gage can be installed by merely drilling two holes. It affords simple design, good visibility, and is priced at $16.50. It can be mounted on thin or heavy wall tanks. Liquid level is readily visible through a clear glass window, and words indicate condition. • **Century-Detroit Co.**, Century Hydraulics Div., 6101 Concord Ave., Detroit 11, Mich.

▲ For more details circle **NED-595 E1** on enclosed inquiry slip ▲

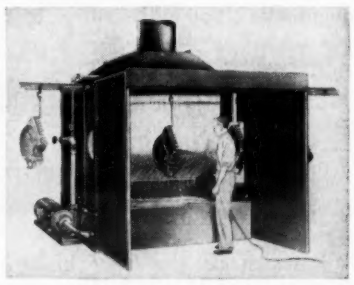
THREE-WAY SOLENOID VALVES with 5 to 150 psi differentials



Normally-open, normally-closed, and directional control arrangement with operating pressure differentials of 5 to 150 psi are available in line of three-way explosionproof solenoid valves. Units have a ½-in. main orifice and ½-in. NPTF and are UL-approved for Class I Group D gasoline vapor, Class II Group F coal and coke dust, and Group G grain dust atmospheres. Series L units have naval forged brass bodies and internal parts of brass and stainless steel. They are offered in a range of voltages and frequencies. • **Skinner Precision Industries, Inc.**, Skinner Electric Valve Div., 105 Edgewood Ave., New Britain, Conn.

▲ For more details circle **NED-596 E1** on enclosed inquiry slip ▲

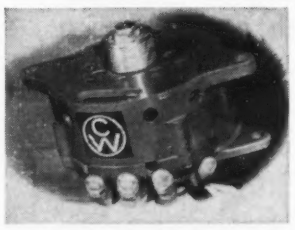
PAINT SPRAY BOOTHS remove paint pigments, volatiles



Various sizes are available in the Thrift-Flow line of water-wash paint spray booths, designed for production line economy and efficiency on short runs. Nozzle sprays have overlapping patterns for high speed removal of paint pigments and volatiles. Explosionproof motors, motor starters, float valves, lights, conveyors, and exhaust stacks are optional on the panel type units. • **Despatch Oven Co.**, 619 S. E. Eighth St., Minneapolis 14, Minn.

▲ For more details circle **NED-597 E1** on enclosed inquiry slip ▲

ALTERNATOR-GENERATOR boosts electrical power of vehicles, auxiliary power plants



Most of the usual moving parts found in conventional generators are eliminated in line of small, lightweight alternator-generators. Line comprises units with converters rated from 0.5 to 5000 kw, and which operate at prime mover speeds from 500 to 150,000 rpm. Used in trucks and special vehicles, units develop enough power for long-range radio transmission or to meet extra-power demands.

Coupled with either electric or gas driven motor, alternator makes possible an arc welding unit of one-third the conventional weight. It can be used in construction, for gas turbines, in induction heating, in power stations, and in ultrasonic cleaning and sterilization. Coupled with one or two lightweight gas engines, it forms a unit which delivers from 10 to 20 kw for additional lighting and power needs.

Line includes this 7-in. diameter, 5-in. long Model 14Y05 which weighs 14½ lb. It is rated 12 or 14 v dc at 100 amp, and up to 220 v at 7.5 kw. • **Curtiss-Wright Corp.**, Utica Div., Utica, Mich.

▲ For more details circle **NED-598 E1** on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

6 SIZES

FEATURING THIS MONTH . . .

Over 25 Material Handling Devices described in our catalog C-3.
Ask for a copy.

LARGE OPENING "G" CLAMP

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.

1-60A

▲ For more details circle **NED-599 E1** on enclosed inquiry slip ▲

▲ For more details circle **NED-600 E1** on enclosed inquiry slip ▲

IF YOU BEND . . .

tube, bar, rolled or extruded shapes . . . on small-lot, experimental, maintenance or production jobs . . .

AND... you want quality bends at speeds of 300 to 400 an hour to ±½° angle tolerances...

OR... you need broad versatility for varied jobs in a multitude of materials, sizes, and shapes, ...capacity to 1¼" O.D. tubing...

BUT... require easy set-up (2-minute change from RH to LH bending) and low initial investment...

REDUCE YOUR BENDING COSTS... IMPROVE PRODUCT QUALITY WITH

PINES MODEL 1400

INVERTIBLE ROTARY BENDING MACHINE

WRITE TODAY FOR CATALOG 356

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
640 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle **NED-601 E1** on enclosed inquiry slip ▲

- Cut costly enclosure design time . . . choose from hundreds of EMCOR Standard Cabinet widths, depths and heights.
- EMCOR MODULAR ENCLOSURE SYSTEM Cabinetry provides for thousands of control center combinations.
- Compatible cabinet design assures simplified and economical expansion at any time.
- Nationwide organization of EMCOR Sales-Engineering Representatives assist in planning and assure customer satisfaction beyond the sale.

WRITE TODAY FOR CATALOG 106
Originators of the Modular Enclosure System
INGERSOLL PRODUCTS
Division of Borg-Warner Corporation
1000 W. 120th ST. • DEPT. 1247 • CHICAGO 43, ILL.
BORG-WARNER

For more details circle NED-603 E1 on enclosed inquiry slip

"ponbake"

A new finish for Blaw-Knox Grating for better wear—and corrosion-resistance

By the time most grating is erected, much of the normal factory-applied coating is worn off. Unless it is repainted at once, costly corrosion starts to take its toll.

However, "Ponbake," the new epon base, high polymer synthetic paint process, developed by Blaw-Knox especially for grating, stays factory-new almost regardless of the treatment it gets.

This is the most rugged, durable finish available on gratings today. It has greater resistance to wear, abrasion, corrosion, chemicals and weathering than any other. Costs less than on-the-job painting. Write if you would like more information, or ask for a Blaw-Knox Grating salesman to show you a sample.

Free facts on grating. Write for Bulletin No. 2581. Blaw-Knox Company, Pittsburgh 38, Pennsylvania.

BLAW-KNOX GRATING

For more details circle NED-604 E1 on enclosed inquiry slip

New from AO

F5300 Safemaster (top)
F9900 Flexi-Fit (below)

Here are two new models of Durasafe safety glasses:

Safemaster—plastic and metal frame, designed for safety Rx as well as plano lenses.

Flexi-Fit—all-plastic, fits 85-90%. Helps cut plant stocks of sizes, is also available for safety Rx.

You get major Durasafe features: sturdier frames, wider temples and endpieces for extra strength in critical areas; 7-barrel hinges make temples 40% stronger; Duragrip screws cannot loosen—frame temples stay tight. Both models available with or without wire mesh side shields; choice of comfort cable, plastic or aluminum spatula temples. Call your AO Safety Products Representative, or write for bulletin S-1524.

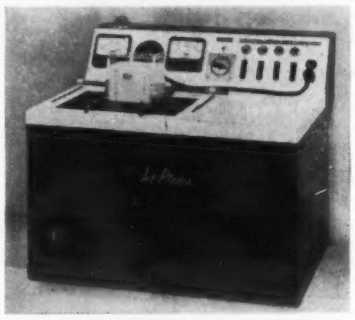
Your Surest Protection . . . AO SURE-GUARD Glasses

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

For more details circle NED-605 E1 on enclosed inquiry slip

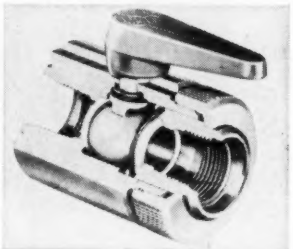
PRECISION PLATING UNIT
for precious metal application



Either barrel or rack plating with any cold alkaline solution and most acid plating solutions is possible on a mass production basis with the Junior Jet Plater. The compact unit contains all the equipment necessary for precision plating of electronic parts and precious metal plating to specification. A plastic centrifugal pump constantly swirls solution around the work. Solution is also drawn off through a built-in filter and returned to the tank. Control panel includes a dual scale ammeter, powerstat rectifier control, circuit breakers, and automatic timer with alarm. • **Meaker Co.**, 75 River Rd., Nutley 10, N. J.

For more details circle NED-606 E1 on enclosed inquiry slip

BALL VALVE
PVC type in 1/4 to 4-in. sizes

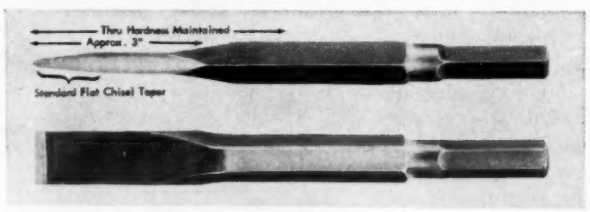


Only a quarter-turn is required to operate this Type I ball valve, available in 1/4 to 4-in. sizes. The corrosion resistant, low torque product is made of nontoxic, nonflammable polyvinyl chloride in socket weld and threaded end types. Virtually nonaging, its compact body has external one-end adjustment. • **Walworth Co.**, 750 Third Ave., New York 17, N. Y.

For more details circle NED-607 E1 on enclosed inquiry slip

CHIPPING CHISELS
for use in pneumatic hammers

Point of GP Style flat chisels is designed to eliminate need for point reforging and rehardening after use in pneumatic chipping hammers. Standard flat chisel taper

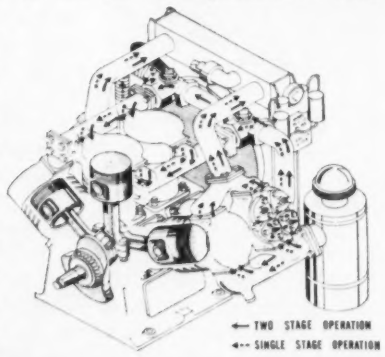


is provided on the front blade section (see illustration). High point hardness is maintained throughout the entire rectangular blade which is rough ground when worn for continued use. Bedco or BTF alloy steels are available in hexagon or round shank types, with double or single bevel edge grind. Body sizes of 3/4 and 7/8 in. are made in respective edge widths of 7/8 and 1 in. Lengths are 8 and 9 in. in both sizes. • **Bedford Tool & Forge Co.**, 22 Interstate St., Bedford, Ohio.

For more details circle NED-608 E1 on enclosed inquiry slip

AIR COMPRESSOR
for single or two-stage operation

Three and six-cylinder models of this stationary air compressor are suited for single-or two-stage operation to deliver 50 or 125 psi at displacements from 260 to 1080 cfm.



In single-stage operation, low-pressure high-volume air is compressed in both the low and high pressure heads without entering the second stage of the compression cycle. The intercooler acts as an aftercooler in this use. To convert to two-stage operation, a three-way valve on the suction side of the high-pressure head is positioned to prevent atmospheric air from reaching the high-pressure heads without going through the first stage. • **Westinghouse Air Brake Co.**, Le Roi Div., Sidney, Ohio.

For more details circle NED-609 E1 on enclosed inquiry slip

NEW, LOWER PRICES on ROSSPUNCH Perforating Pins

PLUS Accuracy ± .0003
Over 120 stock sizes
"Jet-Fast" delivery

The standardized ROSSPUNCH is stocked in tool steel *and* high speed tool steel. Let us supply you at one-third the cost of making them yourself—a 60% saving! Your complete satisfaction guaranteed.

FREE! SAMPLE PUNCH
specifications, stock and price lists are yours upon request. Write us today . . . start saving tomorrow.

TWX RO 655

ROSS Equipment co. inc.
71 COLLEGE AVENUE, ROCHESTER 7, N. Y.

For more details circle NED-610 E1 on enclosed inquiry slip

NEW!
lightweight . . .
KEYLESS *chuck*
for **PORTABLE DRILLS!**

Now—from Supreme—the new Mercury Mark II keyless chuck. It's light; *weighs less than half* as much as other chucks.

Made with key-chuck precision; it has features found only in more expensive chucks. Won't jam—won't slip—won't mar drill shanks . . . makes drilling less work. Ends problem of lost, misplaced or broken keys.

Supreme Chucks BRAND

2222 S. CALUMET AVE., CHICAGO 16 PRECISION ASR PRODUCTS

For more details circle NED-611 E1 on enclosed inquiry slip

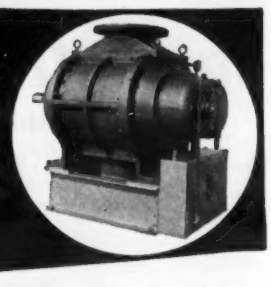
Type	Max. Sensing	Lamp Rating	
SA-1R	up to 2 inches	5 v. a-c	60,000 hrs.
SA-1RM	up to 6 inches	2 v. a-c	5,000 hrs.

Write for Bulletin No. 260

FARMER ELECTRIC
Products Company, Incorporated
2300 WASHINGTON ST. NEWTON LOWER FALLS, MASS.

For more details circle NED-612 E1 on enclosed inquiry slip

SUTORBILT... NEW BLOWERS AND GAS PUMPS, SERIES 3200



Series 3200 Sutorbilt lobe type positive blowers and gas pumps are heavy duty, high performance units which are designed to handle from 800 to 23,000 cfm at pressures from 2 to 12 psi. Available with timing gear diameters from 10" through 26" in horizontal designs. Also, many sizes are offered with vertical case arrangements.

3200 SERIES DESIGN FEATURES:

- distortion-free construction at maximum operating pressure
- one piece 4140 forged steel shafts slip fitted through impellers attached at the gear end allowing increased pressures and horsepower ratings
- alloy steel helical timing gears insure accurate phasing
- internally ribbed impellers provide high strength and stability
- machined sub-bases furnished with all units
- force feed pressure system lubricates timing gears and bearings
- mechanical seals prevent leakage or gas contamination in gas and vacuum pumps

Write for descriptive literature, Department E

SUTORBILT CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF.
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.
IS WELL BUILT
2620 S-29A

For more details circle NED-613 E1 on enclosed inquiry slip

FREE BOOKLET

shows how to save money where you're now spending it

This booklet prescribes new avenues to economy with components fabricated of Masonite® hardboard...drops plenty of cost-cutting hints on how you can work with these versatile panel parts. Also describes the services of Masonite's versatile fabricators—tells how they saw, punch, drill, bend, shape and apply a finish to Masonite panels—all to your exact specifications. Learn about our design and engineering services and our die shop facilities. Write for your free booklet today. Masonite Corporation, Dept. NED5, Box 777, Chicago 90, Ill.

MASONITE *shows the way*

®Masonite Corporation—manufacturer of quality panel products for building and industry.

For more details circle NED-614 E1 on enclosed inquiry slip

1-PART NO-MIX EPOXY ADHESIVE

speeds production bonding

If you can heat-cure at 300°F (or higher) this unique *one-part*, 100%-solids epoxy paste adhesive —BONDMASTER M620—can:

- give you high-strength bonds with all metals, all plastics;
- eliminate costly post-finishing (won't flow or drip during cure!);
- let you use unskilled labor on critical bonding jobs;
- eliminate time-consuming weighing and mixing of separate components.

USE RIGHT FROM SHIPPING CONTAINER

Spreads as easily as a heavy cold cream just as you receive it. Thixotropic, too—won't flow or drip; excellent void-filler.

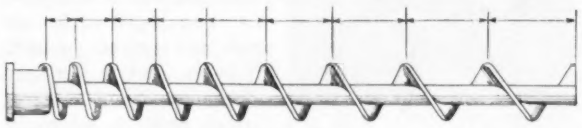
Write for detailed Data Sheets and Technical Article reprints.

RUBBER & ASBESTOS CORP.
241 BELLEVILLE AVE., BLOOMFIELD, N. J.

For more details circle NED-615 E1 on enclosed inquiry slip

PROGRESSIVE CONVEYOR SCREW
made in any diameter, capacity, and pitch to prevent material packing

Elimination of rollover and consequent packing of material being conveyed by spiral shaft conveyors is provided by the progressive pitch of this conveyor screw.

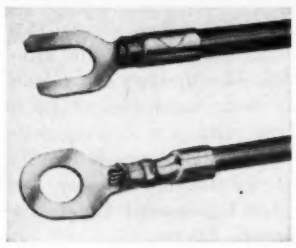


The constantly increasing pitch moves the material forward at a greater speed with each revolution (see illustration). The progressive pitch screw can be made to specification in any pitch, diameter, and capacity, with right or left hand flights.

It requires less power and torque to operate than constant pitch screws, minimizes wear on the tube and on itself, and will not break up materials being handled. Lengths up to 20 ft, with ½ to 2½-in. shaft sizes, diameters from 1 to 8 in., and pitches from 1 to 12 in. are available. Uses include handling coal, grain, dirt, sand, powder, chemicals, foodstuffs, and minerals. • **Worley Equipment, Inc.**, 2301 N. Knox Ave., Chicago 39, Ill.

For more details circle NED-616 E1 on enclosed inquiry slip

SPADE & RING TERMINALS
for 20 to 27-gage wires

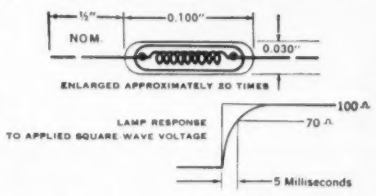


Designed to accommodate wire sizes from No. 20 to 27, spade and ring terminals have insulation ranges of 0.035 to 0.11 in. These brass or tinned brass terminals are offered in a choice of insulation support, no insulation support, or an insulation pierce crimp. They are suited for production semiautomatic crimping on high speed machines. • **Malco Mfg. Co.**, Dept. ND-5, 4025 W. Lake St., Chicago 24, Ill.

For more details circle NED-617 E1 on enclosed inquiry slip

TINY LIGHT BULB
microminiature type burns on 1.35 v

Measuring only 1/16 in. long and having 1/64-in. diameter, Type 13-7 microminiature lamp operates on 1.35 v and 6.74 ma to produce half-brightness in 4 milliseconds. Companion Type 30-30 high output lamp measures 0.1 in. long by 0.03 in. diameter and develops 250 millilumens when operated on 3 v and 32 ma. These two lamps have life expectancies of 1000 and 2000 hr. • **Kay Electric Co.**, Dept. 412, 14 Maple Ave., Pine Brook, N. J.



For more details circle NED-618 E1 on enclosed inquiry slip

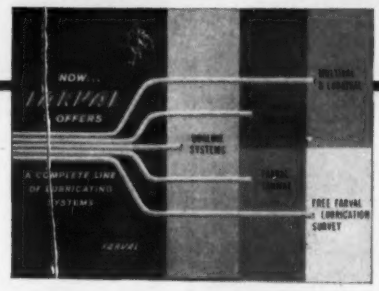
GRINDER CONVERSION UNIT
for electrolytic operation in finishing extremely hard materials

Any conventional grinder can be changed into an electrolytic grinding unit by addition of a Hi-Cut power converter. Five standard models with capacities from 250 to 1500 amp reportedly reduce diamond and aluminum oxide wheel costs up to 90 per cent and increase grinding speeds from 3½ to 10 times. Once the single, simplified control is set to the job in progress, optimum amperage output is automatically maintained.

One or two grinders can be served by one converter. Finishes from 5 to 12 microinches rms are produced without burrs. Unit is used in grinding carbides, honeycomb materials, superhard stainless steels, high temperature alloys, Stellite, titanium, Hastelloy, and other exotic metals. • **Hi-Carb Corp.**, 1055 E. 260th St., Cleveland 32, Ohio.

For more details circle NED-619 E1 on enclosed inquiry slip

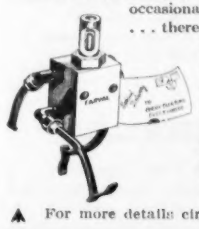
FOR ALL LUBRICATION ENGINEERS



NEW FREE BULLETIN 27
gives engineering and application data for Farval's complete line of lubricating systems

Here's the latest published information describing five different custom-designed systems for handling any type of industrial lubricating job. Operational features of each system are outlined in detail as well as specific application recommendations.

Whether your equipment needs oil or grease frequently . . . or occasionally . . . in large amounts . . . or small amounts . . . there's a Farval system designed to handle the job efficiently and economically.



Since no engineering file can be considered up-to-date unless it contains Bulletin 27, why not write for your personal copy today.

FARVAL DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

For more details circle NED-620 E1 on enclosed inquiry slip

Skil ball-bearing drills at these prices?

At only $32.50, the New **Skil Model 70** (*top*) stretches your dollars further than any industrial ¼-incher you can buy! Yet it's every inch a quality Skil tool, with ball-bearing construction; powerful 2.5 amp motor; precision helical gears; tough, lightweight aluminum housing.

New **Skil Model 76** (*bottom*) is today's answer for buyers who want a broad-shouldered, ⅜-inch drill—low in price ($42.50)—but high in quality. Has ball bearing construction, lightweight aluminum housing. Auxiliary side handle gives better control, extra leverage when using hole saws and large bits.

See your Skil distributor for a demonstration. Look under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, Dept. 119E, 5033 Elston Avenue, Chicago 30, Illinois.

SKIL ...and SKILSAW POWER TOOLS

For more details circle NED-621 E1 on enclosed inquiry slip

The SAFE cleaner for electric motors

SAFETY SOLVENT DEGREASER

Safe from toxic fumes and fire!

Approximately 25 times safer than carbon tetrachloride! SS-25 has a dielectric constant of 25,000 volts . . . with none of the fire hazards of petroleum products such as kerosene and naphtha. Local fire marshals and plant safety engineers endorse SS-25 because of its non-flammable qualities . . . ease of use for spray or immersion cleaning.

- no flash at the boiling point!
- corrosion free – residue on drying zero!
- safe for skin
- removes grease and oils without damage to surface metal, paint or rubber
- prevents shorting of the commutator
- increases life of brushes
- prevents bearings from becoming clogged with grease and dirt

NATIONAL CHEMSEARCH CORP.
2417 Commerce Street, Dallas, Texas
Offices in: Los Angeles • St. Louis • New York

For more details circle NED-622 E1 on enclosed inquiry slip

Model ADI-264-S

WELD Extra Thin Metals with extremely low current . . . as low as 1 AMPERE

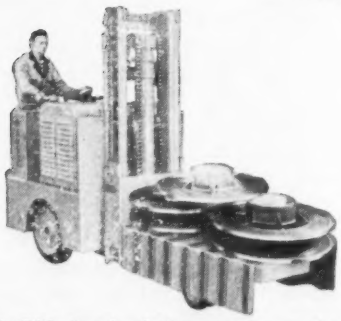
the new AC-DC model features:

- Welding currents down to 1 AMPERE for welding thin materials
- A new high frequency circuit for easier arc starting
- An automatic high frequency cutout circuit for restarting the arc in the event of an arc outage (high frequency can be operated continuously if desired)
- A new AC circuit for cleaner welds on aluminum
- A choice of AC or DC welding or Inert Gas AC or DC
- A new spot welding timer as an optional feature

HOBART BROTHERS CO., Box ND-51, Troy, Ohio
"Manufacturers of the world's most complete line of arc welding equipment"

For more details circle NED-623 E1 on enclosed inquiry slip

BAKER Platform Trucks



Capacities 6,000 lbs. and up

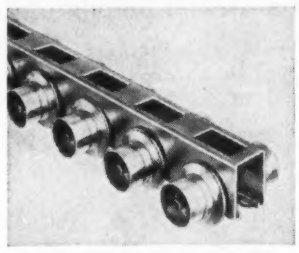
BAKER low-lift and Hy-lift® electric platform trucks are the most modern and efficient of their kind. They offer such features as 5-speed double drum controller, single reduction worm-drive, full compensating rubber mounted trail axle and non-plugging electric braking. *Call your BAKER Industrial Trucks Representative for information on "a complete line for every handling need."*

OTIS ELEVATOR COMPANY
Baker Industrial Trucks Division
8045 BAKER AVENUE
CLEVELAND 2
OHIO

B4-61

For more details circle NED-624 E1 on enclosed inquiry slip

STORAGE CONVEYOR WHEEL
has wide carrying surface

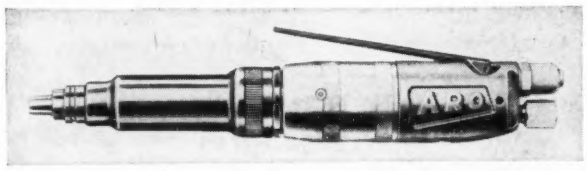


Live storage of materials in light paperboard boxes is facilitated by using Flow Rack live storage racks and wheel strip conveyors equipped with wide carrying-surface wheel. A 3/8-in. flange on one side serves as an integral "guard rail" to maintain carton alignment within extensive lengths of rack. Flange turns with the wheel to eliminate carton binding against a stationary rail or frame. • **Rapids-Standard Co.**, 342 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-625 E1 on enclosed inquiry slip

POSITIVE TORQUE CLUTCH
for air-driven nut and screw drivers

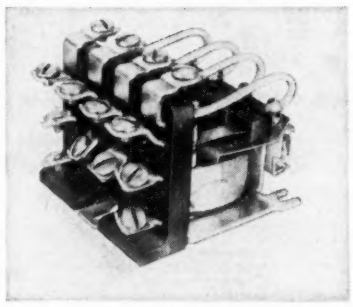
Air-driven screwdrivers and nutsetters equipped with the Torqmatic single-action clutch with positive torque adjustment cannot overrun the threaded fastener.



When fastener reaches the preset torque limit, two cams on the clutch open instantly. A separate lockout cam thrusts out three lock pins to keep the clutch disengaged until pressure on work is released. Clutch can be used on delicate screw and nut driving jobs and is free from impact or noisy ratcheting. It is fully interchangeable with clutch and housing on any Aro O-Series C-Model tool. • **Aro Equipment Corp.**, Industrial Div., Erie Street, Bryan, Ohio.

For more details circle NED-626 E1 on enclosed inquiry slip

FOUR-POLE POWER RELAY
rated 16 amp at 115 v ac

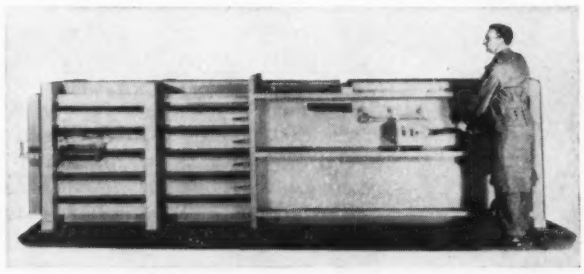


Space-saving PM Series four-pole power relay measures only 3 11/32 x 2 41/64 x 2½ in. It meets UL spacing and creepage requirements to 300 v for motor controllers of 1 hp or less. Contacts are rated 16 amp at 115 v ac. Ratings of 25 amp at 220 v ac are obtainable. Four-pole double-throw or four-pole single-throw contact arrangements are standard, and coil operating voltages are 6 to 230 v ac. Relays mount in any position by one key-hole and two channel slots. • **American Machine & Foundry Co.**, Potter & Brumfield Div., 270 N. Main St., Princeton, Ind.

For more details circle NED-627 E1 on enclosed inquiry slip

HORIZONTAL WASTE BALER
handles paper, chipboard, boxboard

This horizontal, floor-mounted, 72-in. waste material baling press will crush waste paper, chipboard, boxboard, and corrugated into bales measuring 72 in. long, 42 in.



high, and 30 in. wide. Bales weigh from 900 to 1200 lb and are contained by five 13-gage baling wires. Shipped completely assembled, baler requires no pit or special foundation and has a 21-cu ft feeder-hopper which can be fed by chute or conveyor from any direction. It measures 14 ft 9 in. x 50 x 41 in., weighs 5400 lb, and is powered by a 15-hp motor. Four smaller sizes are also made. Baler can be set to operate automatically and make a complete ram stroke in 24 sec. • **Lake Engineering Co.**, 312 Gostlin St., Hammond, Ind.

For more details circle NED-628 E1 on enclosed inquiry slip

Instantrol®
Heater Assembly

. . . for instant hot water under perfect control at varying loads

The special "heat anticipating" effect of the patented Instantrol bulb provides perfect control for any instantaneous shell-and-tube heater . . . regardless of widely changing loads.

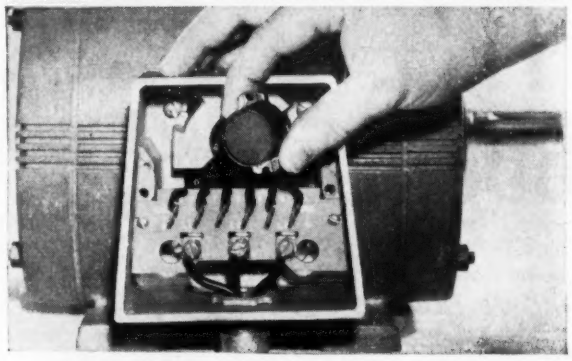
Ideal for showers, washrooms, dishwashers, industrial processes; adjustable within limits of 90° - 200°F. Available as Instantrol Control Assembly, including regulator, "MA" valve, Instantrol bulb, tubing, etc.; or as complete Heater Package, mounted on shell-and-tube heater and fully piped.

COMPLETE SPECIFICATIONS IN BULLETIN JY-758

Robertshaw
MR. CONTROLS
Robertshaw-Fulton Controls Co.
FULTON-SYLPHON DIVISION • KNOXVILLE 1, TENNESSEE

For more details circle NED-629 E1 on enclosed inquiry slip

NEW Franklin standard motors of LIGHTWEIGHT aluminum



Built-in PROTECTOR SPACE SAVES TIME AND MONEY!

Both single phase *and polyphase* Franklin motors have a *built-in space* for inherent protectors. Protects the motor even under locked rotor conditions! Only the new Franklin motors, 1 to 7½ hp, have this cost-cutting feature. See them. And write Department NED-5 for free color brochure.

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

For more details circle NED-630 E1 on enclosed inquiry slip

PUMPS THAT "GROW"
Versatile Centrifugal

The DEMING Co.
506 BROADWAY • SALEM, OHIO

For more details circle NED-631 E1 on enclosed inquiry slip

WASH WINDOWS IN HALF THE TIME
• SAFER . . .
• EASIER . . .
more
ECONOMICALLY . . .

with the
TUCKER "HIGH" WINDOW WASHER

Includes these
EASY TO OPERATE features

TELESCOPIC HANDLES
reach heights of 66 feet, reduce into sections for lower windows.

VALVE CONTROLLED DISPENSER
delivers detergent or rinse water with fingertip ease.

DETERGENT TABLETS
last full half day of continuous washing.

SPECIAL NYLON BRUSHES
wash windows, edges and corners in one swipe.

SAFER . . . eliminates danger of costly accidents due to falling ladders.

EASIER . . . eliminates time consuming erection of scaffolding.

ECONOMICAL . . . one man now does the job it formerly took two men to do . . . and in half the time!

FOR COMPLETE DETAILS WITH FREE TRIAL OFFER, ADDRESS DEPT. C-65

TUCKER MANUFACTURING CO.
Cedar Rapids, Iowa

For more details circle NED-632 E1 on enclosed inquiry slip

Here's
SUPER-POWER
for
Better Lawn Care
and
Every-Season
Use

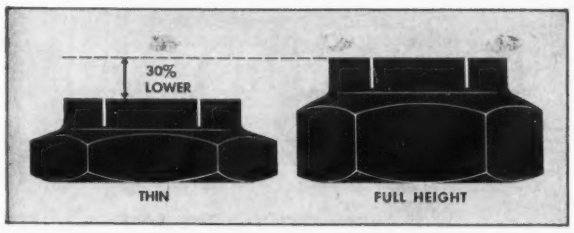
New
Spinaway
Heavy Duty
42" RIDING MOWER

Check its *new* features: free-floating cutting unit avoids scalping . . . can't tip . . . quick, measured height adjustment . . . High Suction for smooth cutting . . . Mower operates independent of travel . . . Automotive type transmission and steering . . . Powerful 9.2 H. P. . . . 3 speeds forward, and reverse. Electric starter optional. "Pat Pend." Phone or write for prices

"The Mower with the Most Tomorrows"

HAL-GAN PRODUCTS, Inc.
Dept. NED,
13000 W. Blue Mound Road
Elm Grove, Wisconsin

For more details circle NED-633 E1 on enclosed inquiry slip



FLEXLOC thin nuts save weight, space, production time

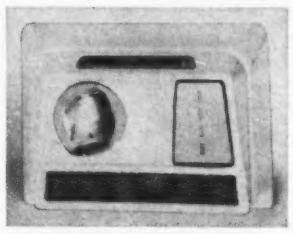
- 30% lighter than full-height locknuts
- Lock with shorter bolts; fit where ordinary locknuts won't; allow more compact joints
- Speed production—fewer turns needed to seat
- Provide high reliability—every thread carries full share of tensile load
- Simplify design, specification, inventory—1-piece fasteners
- Can be repeatedly reused
- Sizes #6 to 1½ in.

See your SPS distributor or write direct for Bulletin 866.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-634 E1 on enclosed inquiry slip

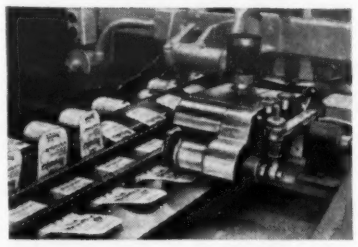
ELECTRIC HAND DRYER
semirecessed model is fast drying



Especially suited to new construction, semirecessed Model 12-6 electric hand dryer extends 6⅜ in. from wall and 3 9/16 in. into the wall. Functional improvements afford savings in space and maintenance in heavily-trafficked industrial and institutional washrooms. Available in 115 and 230-v models, units have a push bar switch with automatic shutoff, white or choice of ten porcelain enamel color finishes, and chrome plated aluminum nozzle. Simple adjustment converts unit to hair dryer. • **Chicago Hardware Foundry Co.**, 2500 Commonwealth Ave., North Chicago, Ill.

For more details circle NED-635 E1 on enclosed inquiry slip

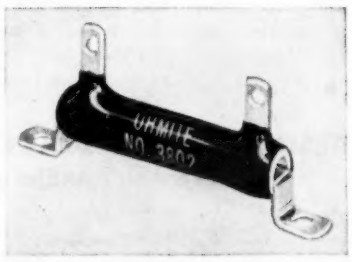
FOLDING CARTON IMPRINTER
installs on cartoning machine



Control numbers, codes, prices, and other markings are imprinted on the bodies or flaps of folding cartons by this imprinting attachment for all popular makes of automatic cartoners. Two basic styles apply the imprint from above (Model 1270) and from below (Model 1280). Both are automatic and do not interfere with pushers or other cartoning machine working parts. Imprinter has interchangeable diewheels and uses instant-drying ink. • **Adolph Gottscho, Inc.**, 6 Terminal Rd., Hillside 5, N. J.

For more details circle NED-636 E1 on enclosed inquiry slip

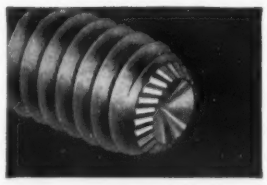
10-W VITREOUS RESISTOR
in 0.51 to 51,000-ohm values

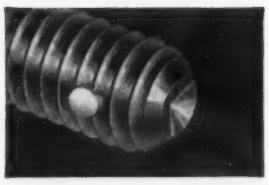


A lug-type vitreous-enameled, tubular core resistor with a 10-w rating is now available in 53 different resistance values from 0.51 to 51,000 ohms. Resistor is wound on a 1¾ x 5/16-in. ceramic core with vitreous enamel anchors that turn in place to protect the windings. Units can be mounted on 2 3/16-in. centers using brackets. Prices in 100 to 249 quantities range from 34 to 56 cents each, depending on resistance value. • **Ohmite Mfg. Co.**, 3670 Howard St., Skokie, Ill.

For more details circle NED-637 E1 on enclosed inquiry slip

How to select set screws
...by UNBRAKO





UNBRAKO with Knurled Cup Point* —Self-locking. Five times as vibration resistant as its closest competitor. Used for quick and permanent location of gears, collars and pulleys on shaft.

UNBRAKO with Plain Cup Point and Nylok† —Self-locking, whether seated or not, wherever wrenching stops. Used against hardened shafts (materials above RC 32); and to hold fine adjustments.

UNBRAKO Cone Point—Highest axial and torsional holding power. Used for permanent location of parts.

UNBRAKO Half-Dog Point—Used for permanent location of parts, in place of dowel pins, on hollow tubing when Nylok insert is also used.

UNBRAKO Flat Point—Used where frequent resetting of one machine part in relation to another is required.

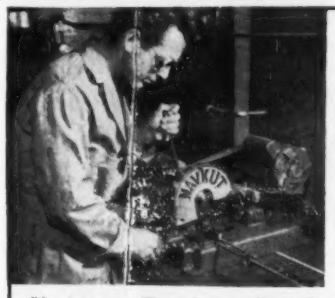
UNBRAKO Oval Point—Used where frequent adjustment is necessary without excessive deformation of part against which it bears.

UNBRAKO socket set screws are available in sizes #0 through 1 in. in alloy and #0 through ½ in. in stainless steels. See your SPS distributor. For booklet on UNBRAKO High Torque Set Screws, write to Standard Pressed Steel Co.

*Standard, at no extra cost
†T.M. Reg. U.S. Pat. Off., The Nylok Corporation

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-638 E1 on enclosed inquiry slip



New $300 precision cut-off saw paid for itself in 15 minutes

Navkut*, the new precision cut-off saw, cut production costs of "spacers" substantially at Unicorn Engineering Inc. (now owned by Computer Measurements Co., Sylmar, Calif.). The cost of spacers was reduced from $8 to 80c each by Navkut's simple cut-off operation. During every 15-minute production run, the Navkut saw paid for itself. Such results aren't unusual with Navkut, the saw that can cut parallel tolerances to within .002" in ferrous, non-ferrous, wood, and plastic materials with only two types of blades. Usually the cut finish and accuracy will be so precise there is no need for milling or grinding. All this, yet the Navkut saw costs only $300. See for yourself how it can save you money. Write today for a free 15-minute demonstration in your shop.

*TRADEMARK

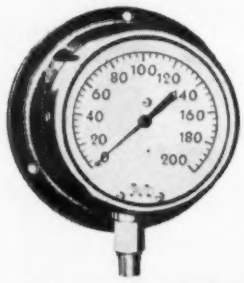
Navkut saw is another product marketed by:

NAVAN
INVENTION MARKETING NATIONAL SALES

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
9001 North Sepulveda
El Segundo, California

For more details circle NED-639 E1 on enclosed inquiry slip

MARSHALLTOWN



The right gauge for your specific needs

MARSHALLTOWN GAUGES

A complete line of gauges in stock available for early delivery. Gauges from 10-inches water pressure to 30,000 P.S.I. to meet your specifications on any equipment.

- Pressure
- Vacuum
- Compound
- Altitude
- Combination
- Diaphragm
- Hydraulic
- Special Purpose
- Dial Thermometer (Vapor Tension or Bi-Metal)

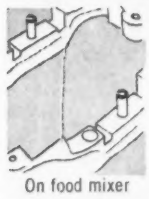
Gauges

Let Marshalltown answer your gauge problems ...write for information and prices.

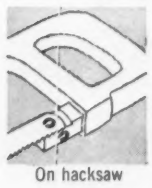
Marshalltown Manufacturing, Inc.
A SUBSIDIARY OF THE ELECTRIC AUTOLITE COMPANY
MARSHALLTOWN, IOWA

For more details circle NED-640 E1 on enclosed inquiry slip

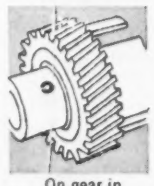
Use it for positioning...
SEL-LOK spring pin



On food mixer



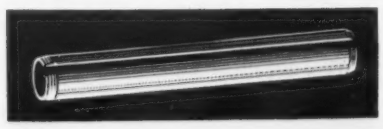
On hacksaw



On gear in assembly

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.

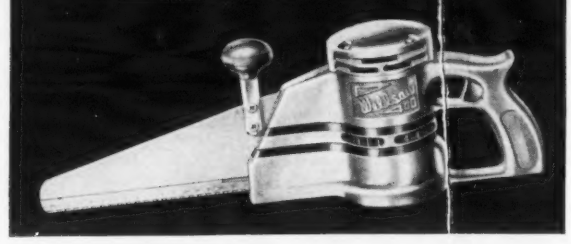


INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-641 E1 on enclosed inquiry slip

MAKE MAINTENANCE, SKIDDING, CRATING, ALL WOOD SAWING JOBS SAFER AND MORE EFFICIENT WITH THE

WELLSAW 400



Here's a new idea in power hand saws that has the versatility to make it the ideal tool for hundreds of jobs in the plant. The Wellsaw 400 is just the good old handsaw with power applied to deliver 8000 1⅛" cutting strokes per minute without kick, pull or whip. Any user can quickly learn to do anything with it he can do with a handsaw. Safe, economical and well built, the Wellsaw 400 is a must for maintenance, crating, skidding, etc. Now available in standard 8" and special 16" capacities. See your dealer or write for descriptive bulletin.

414

Wells SAW SPECIALISTS SINCE 1925

Wells Manufacturing Corporation
1313 Harding Street • Three Rivers, Mich

For more details circle NED-642 E1 on enclosed inquiry slip

GRIEVE-HENDRY PORTABLE ELECTRIC OVENS...

Standard Models For Every Special Need!

Model CR-225
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan. $121.50 f.o.b. Chicago

Portable. Costs less than 5c per hour to operate. Adjustable temperature control to 225° F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required.

Quick Quotations—Prompt Delivery — Reasonable Prices—on Ovens made to your specifications.

Can be used in a group or bank. Use them on the production line—save handling—hauling.

Other standard models with temperature ranges to 1000°F. available. Write for literature.

Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. Elston Ave., Chicago 22, Ill.

For more details circle NED-643 E1 on enclosed inquiry slip

POR-ROK (POUR ROCK) ®

ANCHORS BOLTS PERMANENTLY IN CONCRETE

IN 30 MINUTES!

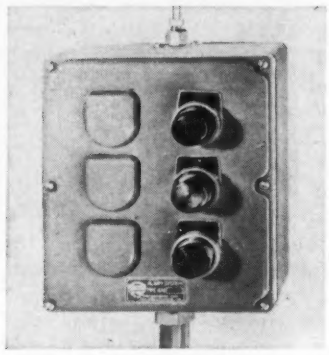
POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO

For more details circle NED-644 E1 on enclosed inquiry slip

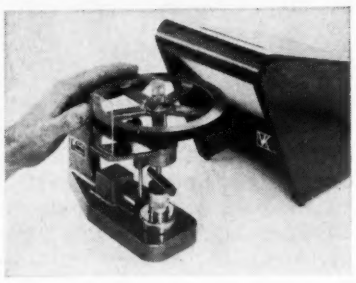
LIQUID LEVEL ALARMS
turn on light, sound horn or bell



Used with any liquid in any storage or processing vessel that is vented to the atmosphere, this line of liquid level alarms functions with any King-Gage or any other air actuated, purge type, gaging system. They turn on a built-in signal light and sound an external horn or bell when the liquid reaches a predetermined level. Models are available for response at high level, low level, and both high and low levels. Signal lights, reset buttons, and operating parts are enclosed in a water-tight housing. External audio warning device and 110-v, 60-cycle power source terminals are provided. • **King Engineering Corp.**, Box 740, Ann Arbor, Mich.

For more details circle NED-645 E1 on enclosed inquiry slip

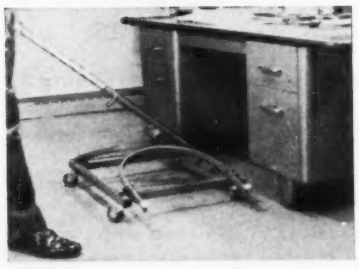
LIGHT WAVE MICROMETER
reads directly to 0.0001 in.



Designed as an inspection standard, the Model LWM light wave micrometer instantly and directly measures basic standards, plug gages, measuring wires, and setting blocks. It also checks roundness of cylindrical shapes, measures pitch diameter of threads and gears, and inspects purchased parts and gages. Instrument reads directly to 0.0001 in. on its handwheel and to 0.00001 in. on its vernier. Capacity is 0 to 2 in. An unskilled operator can obtain accurate duplicate readings. Additional uses are measuring expansion and contraction and evaluating certain characteristics of various materials. • **Van Keuren Co.**, 180 Waltham St., Watertown 72, Mass.

For more details circle NED-646 E1 on enclosed inquiry slip

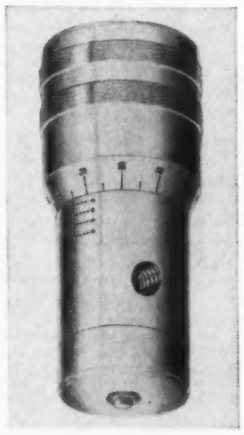
DESK HANDLING DOLLY
one man can handle up to 1200 lb



Lightweight Desk Dolly with welded frame enables one man to move desks weighing up to 1200 lb without removing the drawer contents. Desk is raised 3 to 4 in. with about 35 lb of energy on the handle which is then removed for rolling the loaded dolly through doorways or down aisles. Ball bearing swivel casters permit movement in any direction. Protecting type self-leveling lifting pads are incorporated. Price is $95. • **S & G Enterprises, Inc.**, 7050 N. 76th St., Milwaukee 23, Wis.

For more details circle NED-647 E1 on enclosed inquiry slip

PRESSURE & FLOW REGULATORS
micrometer-set for up to 150 psi



Micrometer accuracy enables Model R 4009 pressure regulator to maintain precise outlet pressures up to 150 psi with varying inlet pressure or flow. Fingertip micrometer adjusts instantly and can be reset with normal repeatability of ±0.5 per cent. Special port for sensing line connection allows compensation for downstream pressure loss and automatically corrects for line losses and restrictions. Model R 4003 regulator with flow range from 5 to 300 scfh provides the advantages of Model 4009, but maintains a constant flow with varying upstream or downstream pressure. • **Circle Seal Products Co.**, 2181 E. Foothill Blvd., Pasadena, Calif.

For more details circle NED-648 E1 on enclosed inquiry slip

New Bulletin

FULLER DUAL AIR-INLET DA FEEDERS

- For delivering dry pulverized and granular materials into high-pressure pneumatic conveying systems.
- Assure complete fluidization and discharge.
- Use with pressure systems of either high or low velocity types.
- Efficiencies as high as 98.4%. Permit use of smaller components in rest of system. Three sizes available.

Write for Bulletin F-8 3084 F-26

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.
Fuller — pioneers in harnessing air

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World

For more details circle NED-649 E1 on enclosed inquiry slip

Decorator Line

FLOOR STANDING Hat and Coat Racks

with either HANGERS or HOOKS

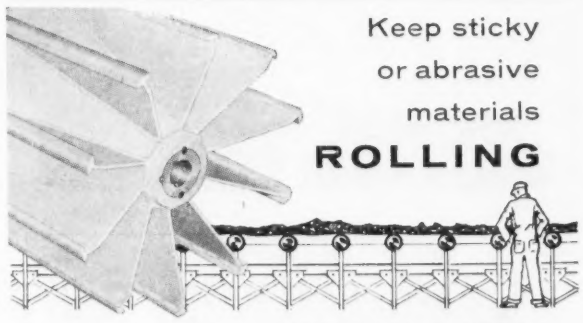
Either with garment hanger rail or with staggered rows of hooks below shelf.

Decorator floor models are soundly engineered, quality built and beautifully designed. Frames are of welded square tubular steel giving needed strength and weight for anodized aluminum shelf sections. Cast aluminum shelf-arms finished to match steel frames in silver-gray or gold hammertone colors. All Decorator Floor models single faced or double faced (island); garment hanger or hook styles. Two to six foot lengths, adjustable glides or 2" swivel casters. Quality built, these units will stand for years — will not creak, sway, tip or sag.

Write for Bulletin DL-8 for full information on complete Decorator line including wall mounted racks.

VOGEL-PETERSON CO
RT. 83 AND MADISON ST. • ELMHURST, ILL.

For more details circle NED-650 E1 on enclosed inquiry slip



Keep sticky or abrasive materials ROLLING

WITH VAN GORP

Turn-Clean® PULLEYS

Van Gorp Turn-Clean pulleys are of all-welded steel construction, with gussets continuously welded to wings and hub to insure maximum ruggedness and top self-cleaning performance under severe working conditions. Dodge Taper Lock bushings permit simple, sure installation. In addition, only Van Gorp offers a selection of 3,000 pulley sizes with four face selections, and custom manufacture to exact specifications. All popular pulley sizes are stocked for prompt shipment. Write for new brochure on 7 ways to cut costs with Van Gorp Turn-Clean pulleys and a free sample of the new "Rubber Lagged" Turn-Clean pulley — the answer to tough drive pulley problems.

VAN gorp MFG., INC.
Dept. NED, Pella Iowa

For more details circle NED-651 E1 on enclosed inquiry slip

New PERMACEL Epoxy Coating

Ideal protection for all concrete, cinder block, wood and metal surfaces. 2 part system—Brush, roll or spray it on for a durable, porcelain-like protective finish. Red, blue, green, gray, black, white, metallic, and clear.

PERMACEL NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

▲ For more details circle **NED-652 E1** on enclosed inquiry slip ▲

LOCK OUT AIR FOR MACHINE REPAIR

Ross

Locks
Out and
e**X**hausts
VALVE

Lock out air that operates a machine, as a safeguard when making machine repairs. The Ross L-O-X Valve installs in the supply line leading to the machine, upstream of any operating valve. Designed so that when closed, supply-air to the machine is shut off and air downstream is exhausted. Can be padlocked in this position.

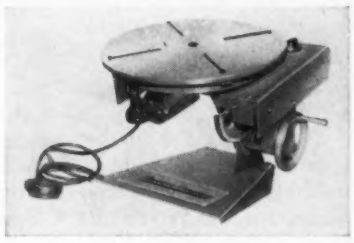
More L-O-X valves can be incorporated in the circuit to shut off and exhaust various segments of the circuit. Detented open; very low pressure drop; Lightweight aluminum construction. Call your Ross representative or write for literature.

ROSS OPERATING VALVE CO.

161 EAST GOLDEN GATE AVE. • DETROIT 3, MICH.

▲ For more details circle **NED-653 E1** on enclosed inquiry slip ▲

WORK POSITIONER
bench model tilts 100-lb loads



Weighing only 65 lb, this bench or pedestal mounted work positioner tilts through 135 degrees and rotates the load at any speed up to 6 rpm. Remote control of the variable speed power rotation is through an optional foot switch. Manual tilting is by a handwheel operating a worm and worm gear assembly which locks the table in any position from horizontal to 45 degrees past vertical. The 14-in. diameter table has four T-slots at right angles. Channels under the slots catch foreign matter. Capacity is 100 lb at 1-in. center of gravity. • **Ransome Co.**, Box 67, Scotch Plains, N. J.

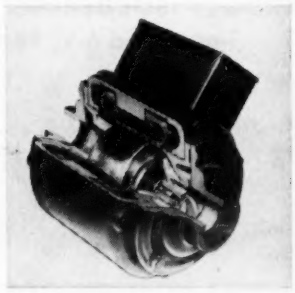
▲ For more details circle **NED-655 E1** on enclosed inquiry slip ▲

MEASURING TAPES
metallic and nonmetallic types

Line of English-made precision measuring tapes includes 50 and 100-ft lengths graduated in feet, tenths, and half-tenths, as well as in feet, inches, and quarter inches. Metallic and plastic-coated woven linen tapes are offered in leather tooled cases. The plastic coating protects the finish and markings against wear and scuffing and permits cleaning with a damp cloth. Each type is color coded. Prices are $13.75 and $21.75, respectively, for the 50 and 100-ft lengths. Refill tapes are $7.50 and $12. • **Koh-I-Noor, Inc.**, Bloomsbury, N. J.

▲ For more details circle **NED-656 E1** on enclosed inquiry slip ▲

CANNED PUMP
high volume 1/6 to ¾-hp units

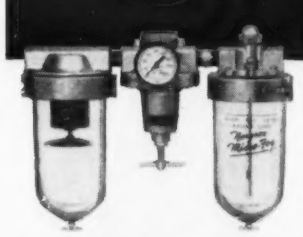


This low head, high volume "canned" pump in 1/6 to ¾-hp ratings is leakproof, noiseless, and vibrationless. Its rotor-impeller, the only moving part, is directly driven by the motor stator. Front and rear bearings are lubricated by the liquid being pumped, and seals or packing are not required. Pump measures 8¾ x 8¼ in., weighs about 33 lb, and is made in stainless steels, Hastelloy B or C, bronze, Type C No. 20, cast iron, or Monel metals. • **Corley Co.**, 685 Myrtle Ave., Boonton, N. J.

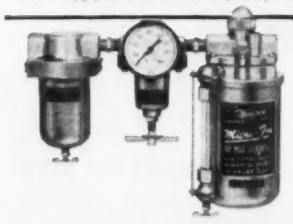
▲ For more details circle **NED-657 E1** on enclosed inquiry slip ▲

Norgren Micro-Fog Lubro-Control Units

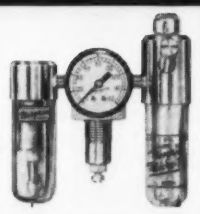
for air-tools, air cylinders and other air-powered equipment



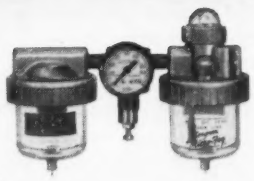
Transparent bowl manual-drain filter; pressure regulator with gauge; transparent bowl, Micro-Fog Lubricator. ¼", ⅜", ½", ¾", 1", pipe sizes. 2½ pts. lubricator capacity.



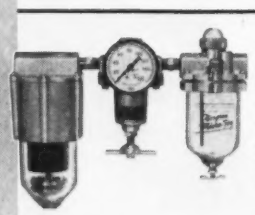
Replaceable metal bowl manual-drain filter; pressure regulator with gauge; replaceable metal bowl, Micro-Fog Lubricator with constant oil level. ¼", ⅜", ½", ¾", 1" pipe sizes. 1 qt. lubricator capacity.



Transparent bowl filter; pressure regulator with gauge; transparent bowl Micro-Fog Lubricator. ¼" pipe size. ½ oz. lubricator capacity. Small compact unit for use where space is tight.



Transparent bowl manual-drain filter; pressure regulator with gauge; transparent bowl Micro-Fog lubricator. ¼" pipe size. 3 oz. Lubricator capacity.



Transparent bowl automatic-drain filter; regulator with gauge; transparent bowl, Micro-Fog Lubricator. ¼", ⅜", ½", ¾", 1" pipe sizes. ½ pt. lubricator capacity.

Compact cabinet unit for air operated machine tool applications. Provides filtered air, accurate regulation and control of oil delivery, visible, adjustable oil feed. ½" pipe size. 10 oz. oil capacity.

Shown here are a few models from Norgren's complete line of air filters, pressure regulators and lubricator units. For full information, call your nearby Norgren representative listed in your phone directory, or write for descriptive literature.

C. A. NORGREN CO.

3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

▲ For more details circle **NED-654 E1** on enclosed inquiry slip ▲

871B

Improved **FEL-PRO C5-A** "HI-TEMP" ANTI-SEIZE THREAD COMPOUND

delivers MORE dollar value at same LOW COST!

All These New Improvements—

- **NEW** • Lower breaking and running torque
- **NEW** • Non-settling, non-hardening, homogenized composition
- **NEW** • Can be used in below freezing weather
- **NEW** • Increased lubricating and sealing qualities
- **NEW** • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

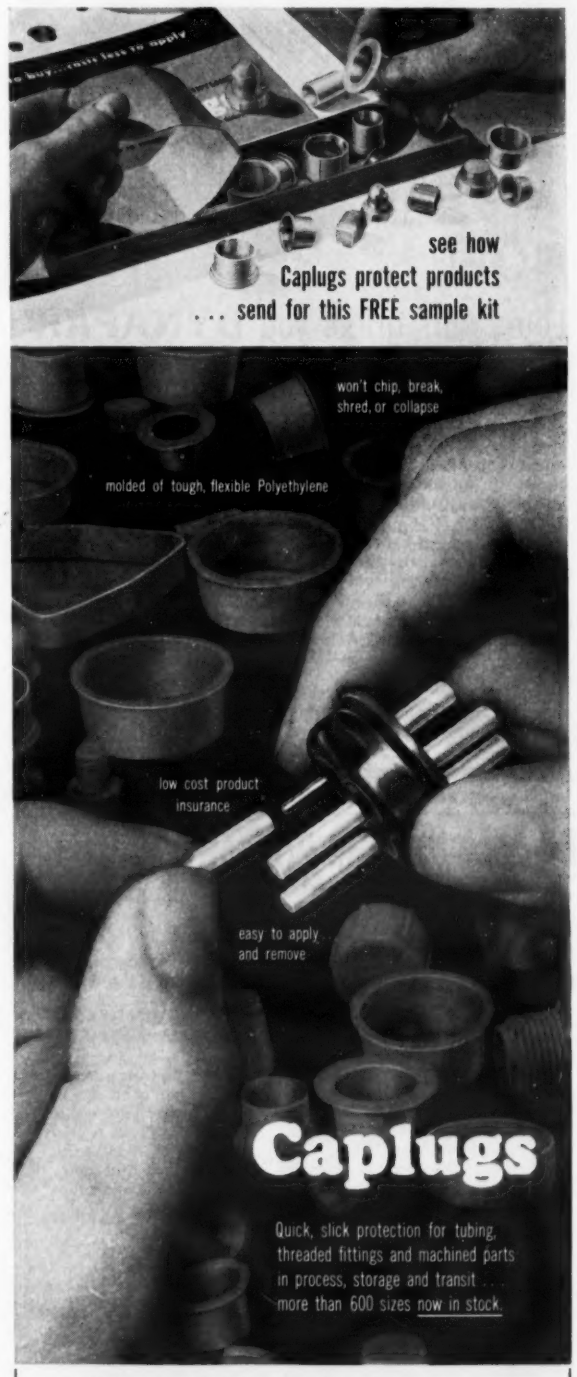
FELT PRODUCTS MFG. CO.
Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

- ✓ Ends seizing and galling even up to 1800° F.
- ✓ Reduces wrench torque
- ✓ Stops needless stud breakage
- ✓ Permits repeated re-use
- ✓ Speeds assembly and disassembly
- ✓ Prevents galling of stainless steel

TRY C5-A NOW . . .

Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. *Write for your free test sample today!*

▲ For more details circle **NED-658 E1** on enclosed inquiry slip ▲



CAPLUGS DIVISION, PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

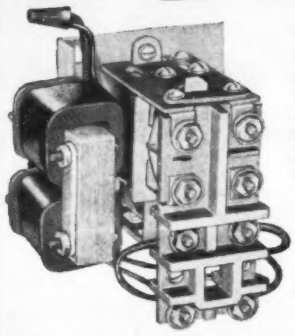
MAIL a free assortment of Caplugs, literature and prices to us, without obligation.

Name_____
Title_____
Firm_____
Address_____
City_____ Zone____ State____

▲ For more details circle **NED-659 E1** on enclosed inquiry slip ▲

WARRICK
Floatless, Electrode Type
LIQUID LEVEL CONTROLS

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

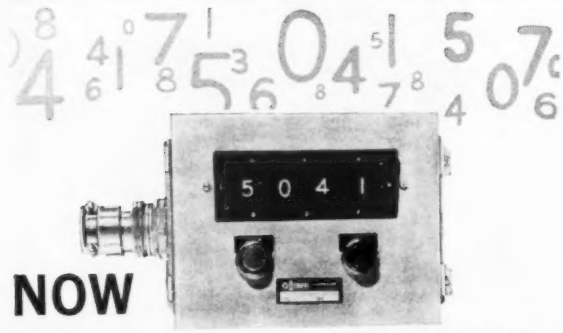
YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

▲ For more details circle NED-667 E1 on enclosed inquiry slip ▲



NOW

Louis Allis offers you **DYNAPAR*** Digital Control Systems!

Besides motors, drives, and controls, Louis Allis now furnishes DYNAPAR Digital Control to give visual readout and process control signals for any production process. The highly accurate digital systems are ideal for high-speed counting; measuring speed and draw; automatic positioning and cutting-to-length; totalizing; timing; controlling, etc.

DYNAPAR digital devices do not drift. There's no need for constant calibration and adjustment. Solid-state transistor circuits provide long-life operation without maintenance. Luminous direct readouts are easy to read.

Up output, cut waste. Automate with DYNAPAR Digital Control. Call your Louis Allis District Office, or write to The Louis Allis Co. 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

▲ For more details circle NED-668 E1 on enclosed inquiry slip ▲

Biggest News in Protective Coatings Since 1942...

AMERCOAT No. 99

Amercoat No. 99 offers the time tested protection of vinyl coatings plus virtually foolproof application with cost reductions of up to 42%!*

For application with either airless spray or conventional spray equipment, No. 99 is a companion coating to Amercoat No. 33, the *first* practical vinyl maintenance coating. Introduced in 1942, No. 33 is...after 18 years...still protecting more than 200 million square feet of steel structures in the severest corrosive environments. And now, through exclusive Amercoat technological developments, you can have the proven protection of No. 33 PLUS the cost-cutting advantages of No. 99.

- Highest solids content of non-mastic vinyls
- Applied by airless spray, one cross sprayed coat easily produces a dry film thickness of 6 mils
- Applied with conventional spray equipment, dry film thickness of 5 mils is obtained with just two coats
- Labor savings of more than 50% have been reported, with material costs cut 35%
- Can be applied directly over Dimetcote, giving a two coat system unequalled by any comparable system
- Recommended for use on all types of structural steel, tank exteriors and ships' hulls

You may obtain complete technical data including a cost analysis showing savings you can realize with this coating by writing to Amercoat Corporation, 4809 Firestone Boulevard, South Gate, California.

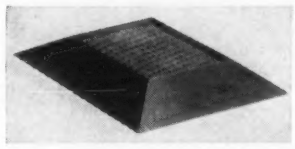
*Documented user report furnished on request

Amercoat CORPORATION 1289
Dept. QZ 4809 Firestone Boulevard South Gate, California

921 Pitner Ave. Evanston, Ill. | 360 Carnegie Ave. Kenilworth, N.J. | 111 Colgate Buffalo, N.Y. | 2404 Dennis St. Jacksonville, Fla. | 6530 Supply Row Houston, Tex.

▲ For more details circle NED-669 E1 on enclosed inquiry slip ▲

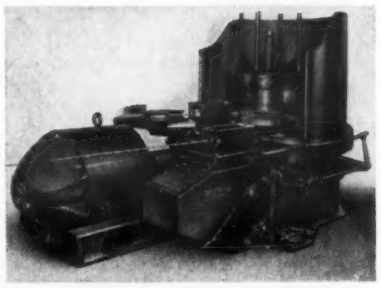
SOUND ABSORBING MOUNT
for industrial, business machines



Sealed air chamber of Sorba-Sound pedestal for use under the feet of various types of machines absorbs noise and minimizes machine vibration. It is made of hard rubber in sizes to fit most industrial machines. Cushions for typewriters and business machines are also produced. • **Evans Specialty Co.**, Box 8128, Richmond 23, Va.

▲ For more details circle NED-670 E1 on enclosed inquiry slip ▲

VERTICAL WIRE BLOCKS
in 16 to 42-in. block sizes up to 250 hp for drawing wire

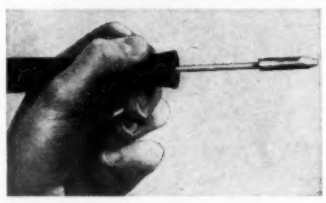


Redesigned line of Mordraw vertical wire drawing blocks consists of both single and double deck arrangements in three basic models ranging in block sizes from 16 through 42 in. Motor ratings range up to 250 hp, and drives can be arranged for either the die side or right-hand side of the machine.

Optional air only or air-and-water cooling systems take heat out fast before wire is affected and make it possible to run out heavy bundles quickly and safely. Cast alloy iron blocks are hardened to a Brinell in excess of 500. They can be supplied with special hard-faced, long-wearing alloy at extra cost. Standards include water-cooled die holder, grip for starting wire, tilting snarl stop, and a collapsing stripper for removing bundles. Many options are available. • **Morgan Construction Co.**, Wire Machinery Div., 15 Belmont St., Worcester 5, Mass.

▲ For more details circle NED-671 E1 on enclosed inquiry slip ▲

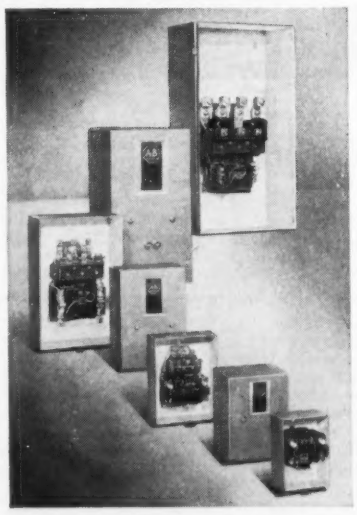
MIDGET SOLDERING IRONS
improved 6-v, 18 to 35-w units



Performance level of G-E 6-v, 18 to 35-w midget soldering irons has been raised by moving the heating element closer to the soldering surfaces. Handle has also been shaped to fit the hand for greater comfort and will not heat up. With a new clip arrangement, tip and heater assemblies are changed faster and easier than with previous models. Irons are offered in 1/8 to 1/4-in. tip sizes. • **General Electric Co.**, 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle NED-672 E1 on enclosed inquiry slip ▲

MOTOR STARTERS
line includes 1½ to 200-hp units

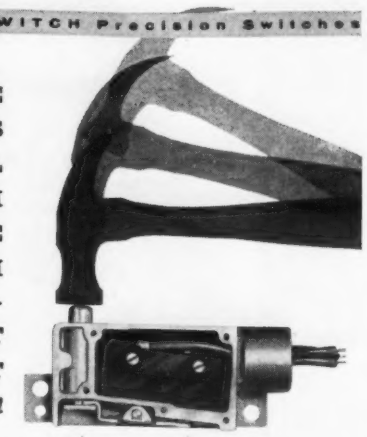


Both size and weight have been reduced in line of Bulletin 709 across-the-line motor starters which are rated from 1½-hp, 220-v through 200-hp, 444-550 v in Sizes 00 to 5. Units employ the one-moving-part solenoid principle and feature double-break contacts of improved cadmium oxide silver that resists welding. Also featured are totally-enclosed arc chambers and coils molded under high pressure to hold wire turns rigidly in place. Solder-pot overload relays are both trip-free and tamper-proof. Automatic-reset bimetallic overload relays can be supplied. Starters can have a pilot light, as well as start-stop pushbutton, or a hand-off-auto selector switch mounted on the cover. • **Allen-Bradley Co.**, 136 W. Greenfield Ave., Milwaukee 4, Wis.

▲ For more details circle NED-673 E1 on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

THESE SWITCHES ROLL WITH THE PUNCH — DON'T GET HURT!



HAMMER-BLOW HERE
Impact actuation of the external plunger is absorbed by a specially designed operating mechanism.

FEATHER-TOUCH HERE
A controlled force is transmitted to the diaphragm-sealed plunger of the internal switching unit.

A high-strength enclosure and the special design of the actuator combine to withstand rapid, hammer-blow operation of MICRO SWITCH "LN" Switches. No. 14 insulated leads are sealed at conduit hub. A gasket inside the cover completes seal against oil and dust. See Yellow Pages for nearby distributor or write for Catalog 83.

MICRO SWITCH . . FREEPORT, ILLINOIS . . A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

▲ For more details circle NED-674 E1 on enclosed inquiry slip ▲

DESIGNED FOR MODERN PIPING!

THE ECON-O-MISER BALL VALVE

COMPARE THE ECON-O-MISER WITH ANY ON-OFF VALVE!

- Remove 4 bolts — the center section lifts out — unions are eliminated!
- ¼" through 6" size range
- Quarter-turn operation
- Smooth round Two Way Flow
- No metal to metal contact — wiping action assures longer life

WRITE FOR COMPLETE TECHNICAL INFORMATION!

WORCESTER
VALVE CO., INC. / WORCESTER 10, MASS.

▲ For more details circle NED-675 E1 on enclosed inquiry slip ▲

PLASTIC EXTRUSIONS...ANY SHAPE OR SIZE

ACE is one of America's leading mass producers of plastic extrusions and all types of precision parts. Any shape, form or color. Any type of plastic. Small runs or large runs. Huge stocks for immediate delivery. Quick, low-cost service on specials. Write, wire or call for samples, price lists and technical bulletins.

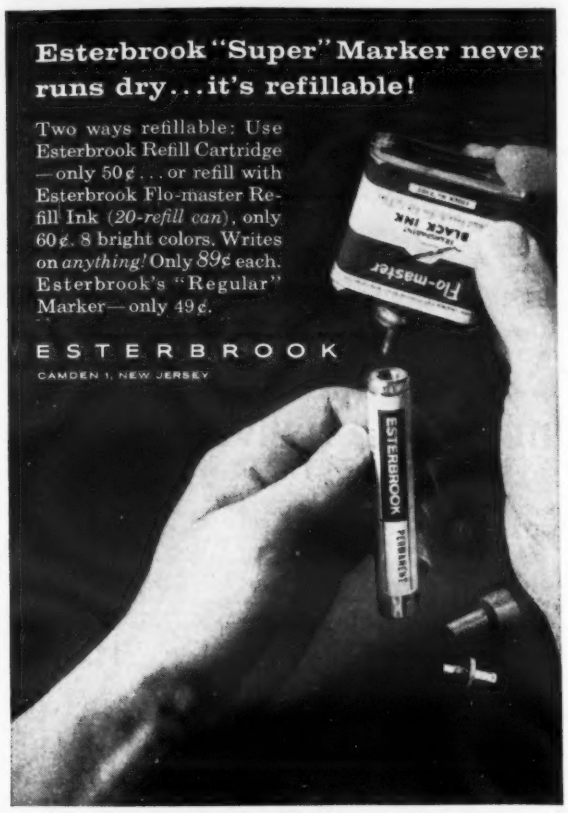
SINCE 1934 EXTRUDERS A FABRICATORS

ACE PLASTIC COMPANY 91-28 VAN WYCK EXPWY · JAMAICA 35, N. Y.

▲ For more details circle NED-676 E1 on enclosed inquiry slip ▲

Esterbrook "Super" Marker never runs dry...it's refillable!

Two ways refillable: Use Esterbrook Refill Cartridge—only 50¢ . . . or refill with Esterbrook Flo-master Refill Ink (*20-refill can*), only 60¢. 8 bright colors. Writes on *anything!* Only 89¢ each. Esterbrook's "Regular" Marker—only 49¢.



ESTERBROOK
CAMDEN 1, NEW JERSEY

▲ For more details circle NED-677 E1 on enclosed inquiry slip ▲

- Large Manufactured Head
- Oversize Blind Head
- Plugged or Hollow
- No Stem Trimming
- Minimum Blind-Side Clearance
- Excellent Head Seating
- Wide Grip Range
- Full Range of Diameters
- Positive Hole Fill
- Easy Installation

For fast, secure, more economical fastening, the new Cherry Commercial Rivet is a blind fastener ideal for production manufacturing and repair. Installed by one man from one side of the work, the Cherry Commercial Rivet reduces cost of assembly, repair and maintenance in both blind and open applications.

Minimum blind side clearance, adaptability to variations in material thickness, and positive hole fill even in oversize or out-of-round holes offer advantages not available in other production fasteners.

Cherry Commercial Rivets are available in both hollow (non-structural) and plugged (structural) types. The plugged rivets have strength values comparable to solid rivets, and stems fracture to eliminate all trimming operations and provide further production economy.

Grip lengths from 1/32" to 1" inclusive, and diameters of 1/8", 5/32", 3/16" and 1/4" are provided in either universal or countersunk head. Special rivets are manufactured to order.

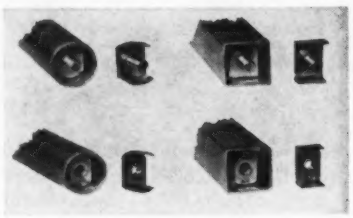
For full technical information on the new Cherry Commercial Rivet, write Cherry Rivet Division, Townsend Company, Box 2157-G, Santa Ana, California.

Aluminum Mild Steel Monel

Cherry Rivet Division
SANTA ANA, CALIFORNIA
Townsend Company
ESTABLISHED 1816
EXECUTIVE OFFICES—BEAVER FALLS, PA.

In Canada: Parmenter & Bulloch Manufacturing Company, Limited, Gananoque, Ontario
▲ For more details circle NED-678 E1 on enclosed inquiry slip ▲

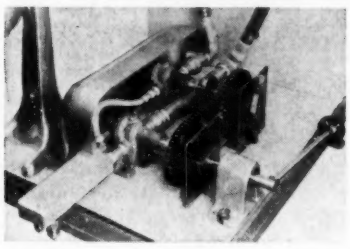
TUBING FASTENER INSERTS
square, round types welded in place



Two-piece stamped tubing inserts, with nut or screw attached, are inserted in the end of round, square, or rectangular steel tubing and spot welded in place. With proper electrodes and weld setups, tube marking is minimized. Fasteners of this type are used in steel office furniture, partitions, and similar products in which tubular sections are integral parts. Round tubing inserts are available for 1 to 1½-in. diameters with internal or external threads. Sizes for square and rectangular tubing range from ⅞ to 1½ in. Special sizes can be made. • **Ohio Nut & Bolt Co.**, 50 First Ave., Berea, Ohio.

▲ For more details circle NED-679 E1 on enclosed inquiry slip ▲

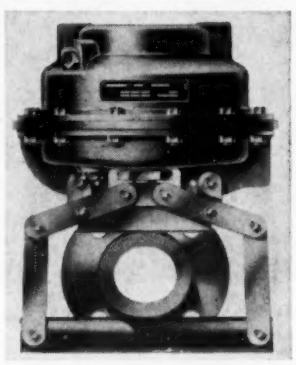
EPOXY PROPORTIONING DISPENSER
1:1 to 100:1 ratios possible



Proportioning accuracy of the Multi-Rez-Processor in mixing and dispensing two-component epoxies and polyurethanes is maintained through mechanical linkage operating positive displacement pumps. Ratios from 1:1 to 100:1 can be set with simple adjustment of an arm. Thorough blending of the mix is accomplished by a motorized mixer with a Teflon impeller. Equipment is sold as a package and shipped assembled and ready to run. • **CPM Special Machinery Corp.**, 324 Butler St., Brooklyn 17, N. Y.

▲ For more details circle NED-680 E1 on enclosed inquiry slip ▲

AUTOMATIC FLEX VALVE
controls corrosive fluids, slurries

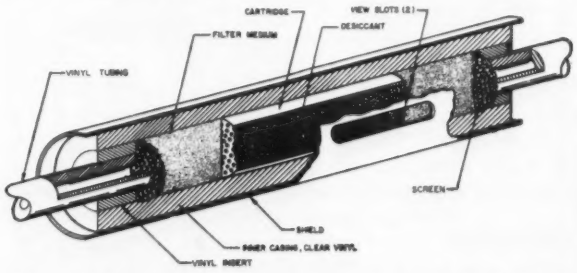


Abrasive slurries and corrosive fluids are controlled in locations too hazardous or inaccessible for manually operated valves by this full-flow automatic Flex Valve. Unit has a smooth bore which is easily cleaned by tapping with a mallet. The flexible body absorbs vibration and is unaffected by water hammer. It will not freeze in outdoor service and is controlled by a diaphragm motor. Available body materials include pure gum rubber, Buna-S, Buna-N, neoprene, and butyl, or compounds of each. Sizes from 1 to 12 in. have slip-on or flange type connections. • **Farris Flexible Valve Corp.**, 551 Commercial Ave., Palisades Park, N. J.

▲ For more details circle NED-681 E1 on enclosed inquiry slip ▲

AIR LINE FILTER
removes vapor contaminants

Working in conjunction with a main heavy-duty filter, this supplemental vapor-contaminant filter provides an extra safeguard against contamination that might de-



velop within air, nitrogen, oxygen, and similar gas pressure lines. The 5 in. long unit consists of a reusable desiccant filter encased in a plastic shell with molded vinyl tubing, both ends of which are fitted with NPT brass fittings. Entire unit weighs only ½ lb and is encased in an aluminum shell. Operating pressure is safe to 75 psi. Filter unit is rejuvenated on a heated manifold at temperatures to 120° F. • **A. Biederman, Inc.**, 1045 Air Way, Glendale, Calif.

▲ For more details circle NED-682 E1 on enclosed inquiry slip ▲

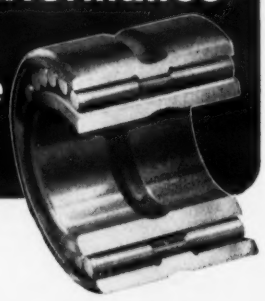
GEAR PROBLEMS? *Check with-* **FAIRFIELD!**

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet *your specifications* EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. *LARGE or SMALL, your requirements will receive prompt attention. Ask for literature.*

FAIRFIELD
Manufacturing Co., Inc.
2335 S. Concord Road
LAFAYETTE, INDIANA

▲ For more details circle NED-683 E1 on enclosed inquiry slip ▲

To simplify design for precision performance in limited radial space



Use McGill GUIDEROL® bearings

You can simplify your bearing housing requirements by applying the heavier load capacity of GUIDEROL bearings in a smaller radial space. Their full complement of race width rollers offers the ultimate in capacity. Rollers are center guided to utilize this capacity by limiting skewing and eliminating binding under average misalignment.

GUIDEROL bearings are designed especially to do the work of larger bearings more efficiently with less cost. Ideal for vertical mounting. Specify the sealed series to keep out contamination and avoid relubrication.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.
▲ For more details circle NED-684 E1 on enclosed inquiry slip ▲

PALMER A GREAT NAME IN THERMOMETERS
Mercury Actuated Temperature Indicating Instruments

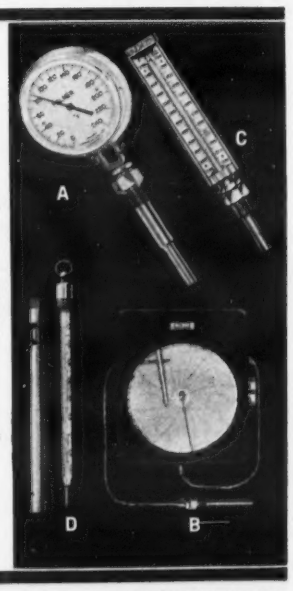
A-4½" DIAL THERMOMETERS: Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted.

B-RECORDING THERMOMETERS: Twelve inch die-cast aluminum case with black finish. Single or multiple pen construction.

C-INDUSTRIAL THERMOMETERS: Red-Reading Mercury, Extruded brass case, chrome finish. Ranges —40° +950° or Equivalent in °C.

D-RED-READING MERCURY LABORATORY THERMOMETERS: Thoroughly annealed for permanent accuracy.

FOR COMPLETE INFORMATION WRITE FOR CATALOG



PALMER PALMER THERMOMETERS, INC.
Cincinnati 12, Ohio
MElrose 1-1500

▲ For more details circle NED-685 E1 on enclosed inquiry slip ▲

10, 30, 60, 100 and 200 amp. ROTARY SNAP SWITCH type P

- Positive snap action.
- Up to eight poles.
- Shorting or non-shorting.
- Unlimited or limited rotation.
- Three mounting styles.
- Tested to your specifications

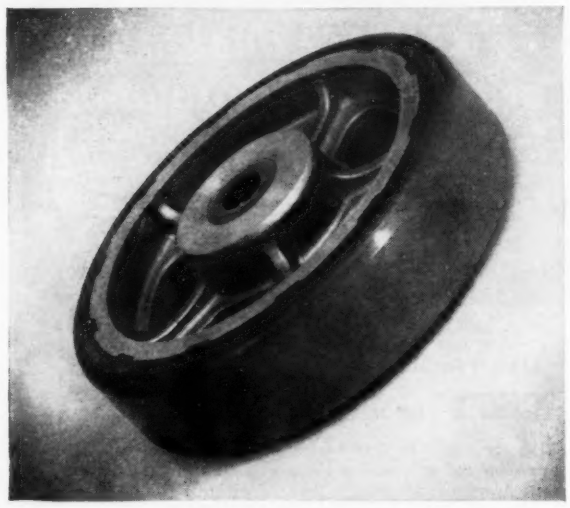
Write for catalog.

Style I mounting Type P 10 ampere switch

Style II mounting Type P 200 ampere switch

ESCO of WEYMOUTH
ELECTRO SWITCH CORP.
Weymouth (Boston 88), Massachusetts

For more details circle NED-686 E1 on enclosed inquiry slip



NEW DU PONT ADIPRENE® MEANS LONGER LIFE FOR INDUSTRIAL WHEELS

Du Pont synthetic rubber research now brings you ADIPRENE . . . a new urethane elastomer for longer lasting, better performing industrial wheels of all types.

NEW WHEELS OUTLAST RUBBER 5 TO 1

Wheels made from ADIPRENE carry a far heavier load than conventional rubber wheels . . . yet they are resilient, won't mark or damage floors. They resist oils, mild chemicals, weathering, aging, high and low temperatures.

Most important, ADIPRENE actually multiplies wheel life because of its outstanding resistance to wear and abuse. Four- and fivefold increases are common. In one plant, where rubber lasted only a few days, ADIPRENE wheels were in good condition after *six months!*

Send the coupon for information about industrial wheels made from this new Du Pont elastomer.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-5
Wilmington 98, Delaware

☐ I would like to know more about ADIPRENE industrial wheels. Please send literature and list of manufacturers.

☐ I am particularly interested in the following types of wheels _____

☐ Other information _____

Name _____

Firm _____

Address _____

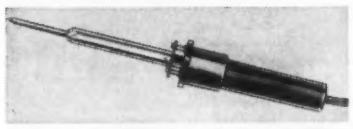
City _____ State _____

DU PONT ADIPRENE® URETHANE RUBBER

Better Things for Better Living . . . *through Chemistry*

For more details circle NED-687 E1 on enclosed inquiry slip

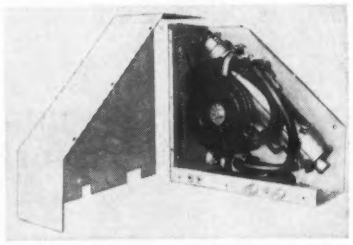
SOLDERING PENCIL melts solder in 90 sec



Balanced design, 8-in. length, and 3-oz weight contribute to ease of using the Model 16 soldering pencil in instrument and electronic work. Its 3/8-in. shaft has a 5/32-in. tip for easy access into crowded chassis. The 25-w, mica insulated, nichrome wire element reaches soldering temperature in 90 sec. Tool has a cool plastic handle and a removable plated copper tip. • **Lenk Mfg. Co.**, Box 324, Franklin, Ky.

For more details circle NED-688 E1 on enclosed inquiry slip

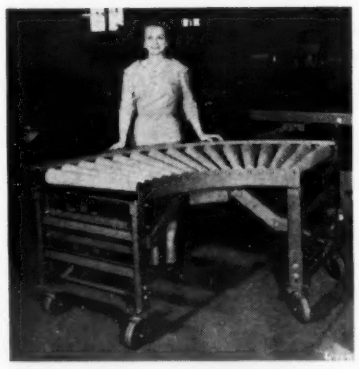
ENGINE PREHEATER maintains coolant temperature



Cold weather starting of any truck, bus, construction equipment, or other gasoline or diesel engine is made easy with South Wind engine preheater. It circulates the coolant through the engine block, automatically maintaining it between 140 and 160° F with the engine stopped or idling. Preheater is a self-contained "independent" combustion heater, connected into the engine coolant system, but having its own fuel pump, coolant pump, and ignition system. Heating capacity is 50,000 Btu per hour. Units for exposed or protected area use are available. Accessory fuel tank kit for use with diesel or propane engine is available. • **Stewart-Warner Corp.**, 1826 Diversey Parkway, Chicago 14, Ill.

For more details circle NED-689 E1 on enclosed inquiry slip

LIVE ROLLER CONVEYOR CURVE in 90, 60, 30-degree portable units



Easily moved self-contained live roller curve for turning commodities in conveyor systems is a continuous chain-driven unit with tapered rollers and is available in 90, 60, and 30-degree sections. Rollers can have rubber coverings to handle fragile or easily marred commodities. Fractional-hp motor that matches load and speed requirements is center or end-mounted for reversible or one-way service. Sections are offered for speeds of 50, 60, 70, 80, 90, 100, 115, and 130 fpm, or with infinitely adjustable speed drive. Widths range from 10½ to 38½ in. with inside radii of 2 ft 3½ in. and 3 ft 2½ in. Casters and floor locks are obtainable. • **Standard Conveyor Co.**, 315 N. W. Second St., North St. Paul 9, Minn.

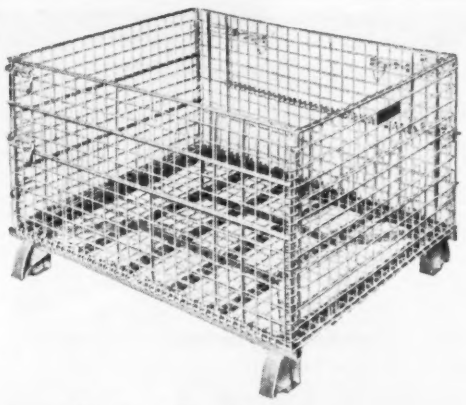
For more details circle NED-690 E1 on enclosed inquiry slip

SOLDERING SYSTEM automatic type for printed circuits

Heart of the Adawave automatic modular soldering system is the soldering module. System is made up of a number of different modules, each of which operates independently and performs a different function. Other modules are for fluxing, preheating, cleaning, drying, scrubbing, and cooling. Designed for production line soldering of printed circuit boards and in-line terminals, the system may be assembled module-by-module, starting with the soldering unit. Work to be soldered is nested in a simple holding fixture that is placed on the conveyor of the first module. It moves across a hollow wave or jet of molten solder where the prefluxed interfaces are cleanly soldered. • **Compo Shoe Machinery Corp.**, Special Products Div., 125 Roberts Rd., Waltham 54, Mass.

For more details circle NED-691 E1 on enclosed inquiry slip

WIRE-TAINERS



Immediate Delivery
. . . at cost saving prices

STANDARD SIZES 2,000 and 4,000 lb. Capacities		
WIDTH	LENGTH	HEIGHT
32	40	24
*32	40	28
36	46	24
40	48	24
*40	48	30
48	48	24

*Side or End Gate Models

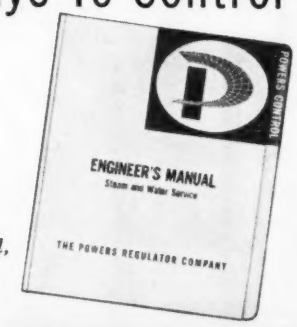
They Stack LOADED OR FOLDED

WRITE FOR FREE LITERATURE

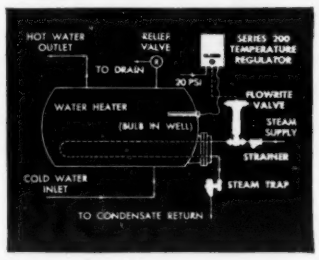
SPRINGPORT STEEL Products Co.
SPRINGPORT • MICHIGAN 12

For more details circle NED-692 E1 on enclosed inquiry slip

Practical Ways To Control Hot Water Storage Heaters



Powers *Engineer's Manual, Steam-Water Service* containing diagrams such as the one shown here on storage heater control is available to you without obligation. Included are diagrams and details on domestic hot water . . . instantaneous heat exchangers . . . heat exchangers for cooling . . . fuel oil heaters . . . pressure reducing . . . jacket water cooling . . . two-temperature hot water systems.



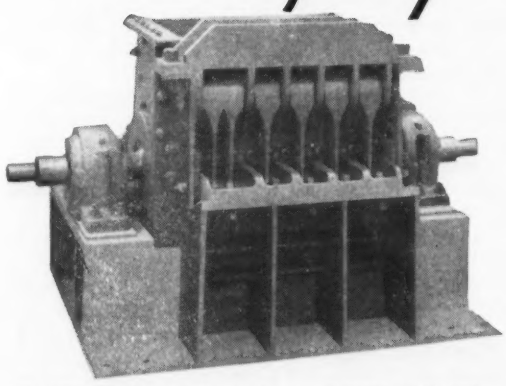
Send for your Engineer's Manual now! Also ask for recommendations on any special requirements.

POWERS CONTROL

THE POWERS REGULATOR CO.
Dept. 561 Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

For more details circle NED-693 E1 on enclosed inquiry slip

HOG GRINDS *Anything!*



The NEW KC MODEL of the Montgomery BLO*HOG grinds bark—bricks — wire and steel strapping — nails — bolts — rubber tires — paper — plaster board — tile — dunnage — Crossties with Spikes —and many other items for fuel or automatic waste disposal systems.

Sizes range from 21" with capacity near 20,000 lbs. per hour to 57" model with 100,000 lbs. per hour capacity.

BUILT-IN PROTECTION AGAINST HEAVY TRAMP STEEL. PUNCH AND DIE ACTION — "DO THE JOB" GUARANTEE.

Manufactured by

JACKSONVILLE BLOW PIPE CO.
P.O. Box 3687 • Jacksonville, Florida
Telephone EL 5-5671

For more details circle NED-694 E1 on enclosed inquiry slip

NEW Martin-Decker **Precision Test Gauge** *makes pressure readings* **25% More Accurate**

8½" Dia. Dial — 25.13" Scale Length
12" Dia. Dial — 36.91" Scale Length

- Big scale readings in small scale space!
- Greater Accuracy!
- Requires less panel space!

360° Calibration makes Martin-Decker Scale 25% longer—gives 25% greater readability than models with 270° scale.
Ni-Span C Bourdon tube is temperature-stable, corrosion-resistant—superior to other alloys.
Tube tip bleed is standard equipment.
Movement calibrated to dial, with an accuracy of ± 0.15% or better.
Uniform linear increments. Protected front zero adjust.
Capacities from 60 PSI to 15,000 PSI.
Find out why more and more O.E.M. designers specify Martin-Decker Precision Test Gauges for measuring gas and fluid pressures.

MARTIN DECKER — Precision Pressure Instruments Testing—Weighing—Load and Force Measurement

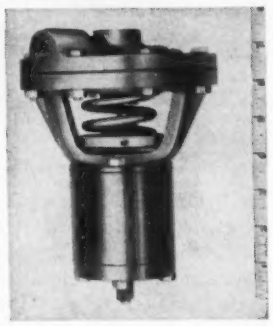
Write for Technical Brochure T45

MARTIN DECKER PRECISION TEST GAUGES

MARTIN-DECKER CORPORATION • 3431 Cherry Ave., Long Beach 7, Calif.

▲ For more details circle NED-695 E1 on enclosed inquiry slip ▲

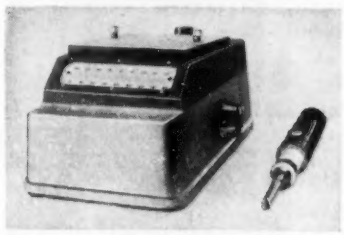
THREE-WAY AIR VALVE
for multicircuit air, gas service



Independently adjustable trip-in and trip-out points which vary the dead band as desired are featured in the Mite 75 snap-acting, three-way valve for multicircuit control in air and nontoxic gas service. Unit operates within a 3 to 30 psi control signal range, and snap-acting mechanism functions when a minimum of 10 psi is available at one or more of the three body connections. Body is rated for 100 psi, operator for 75 psi, and temperatures to 180° F. Unit has ¼-in. NPT connections with ⅛-in. internal ports. • **George W. Dahl Co.**, 86 Tupelo St., Bristol, R. I.

▲ For more details circle NED-698 E1 on enclosed inquiry slip ▲

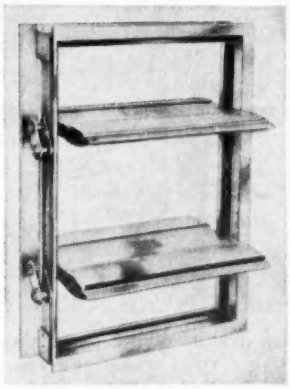
THERMOELECTRIC PROBE
detects metals, alloys, metal coats



Metal bars or sheets which look exactly alike can be separated according to their thermoelectric power with Model TE-1 thermoelectric probe. Instrument is useful for incoming inspection in metal storerooms or in machine shops for detecting metals, alloys, and metallic coatings, either magnetic or nonmagnetic. Test is nondestructive, quick, and simple. • **Electro Impulse Laboratory, Inc.**, 208 River St., Red Bank, N. J.

▲ For more details circle NED-699 E1 on enclosed inquiry slip ▲

ALUMINUM DAMPER
vinyl strips make it airtight



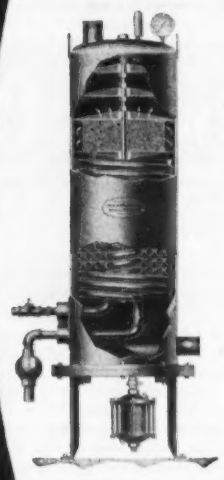
Blade widths from 5 to 9 in. by any length are available on this improved aluminum damper. The double airfoil blades have vinyl strips which make them airtight. When closed, the double blades act as an insulator. Unit is quiet in operation, affords a minimum of friction, and creates little turbulence. • **Arrow Louver & Damper Corp.**, 72 Berry St., Brooklyn 11, N. Y.

▲ For more details circle NED-700 E1 on enclosed inquiry slip ▲

2920

MURPHY ASF / AFTERCOOLER SEPARATOR FILTER

(RESULTS GUARANTEED)



One compact unit to cool and clean compressed air, separate and automatically eject entrained moisture.

CAPACITIES to 150 psi—2100 CFFAM

Write now for FREE Data Sheet No. 2920

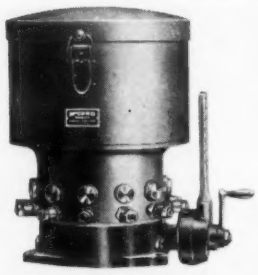
JAMCO

JAS. A. MURPHY & CO., INC.
1419 EAST HIGH STREET, HAMILTON, OHIO

▲ For more details circle NED-702 E1 on enclosed inquiry slip ▲

EFFICIENT • RELIABLE • ECONOMICAL

McCORD MODEL F GREASE LUBRICATOR



Machine tool, press, turbine, hoist, crusher, conveyor, you name it . . . if it requires greasing, *automate* with McCord's Model F Grease Lubricator. You'll cut labor costs, prevent work stoppages, minimize maintenance and repairs, reduce lubricant consumption.

Yes, McCord's Model F is fully automatic and features individually controlled feed that positively, accurately delivers the *right* quantity of grease to each individual point . . . regardless of grease weight, pressures or coldest weather. You can *count* on it, because McCord Grease Lubricator design is the result of more than 30 years of field experience.

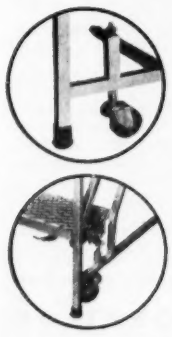
Available with rotary drive, 22.5:1 or 45:1, and ratchet drive, 1.5:1 or 2.5:1.

For full particulars on McCord's Model F, write today to: Advertising Manager—

McCORD CORPORATION
Lubricator Division • Detroit 11, Michigan

▲ For more details circle NED-696 E1 on enclosed inquiry slip ▲

Safe and solid



Standard and spread-base 1 to 12 step Ladder Stands

Ladder moves freely when not in use. User's weight automatically retracts swivel-type front casters . . . models 9 steps and over feature a foot operated caster brake. Welded, all steel construction. Steps and platform roomy and safe. Entire ladder painted aluminum. Prices identical for standard and spread-base models. ILLUSTRATED CATALOG!

Aluminum Ladder Co.
FLORENCE 4 S. CAROLINA

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TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.
Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.
Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

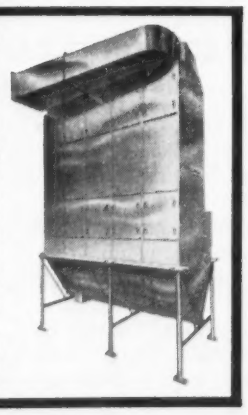
* For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

▲ For more details circle NED-697 E1 on enclosed inquiry slip ▲

TORIT

NEW TORIT DUST COLLECTOR IS AUTOMATIC!



Save real dollars with the benefits from this automatic dust collector. No more interruptions on production lines! Maintenance problems are practically eliminated. This all new continuously cycling TORIT dust collector automatically cleans your air and automatically shakes its own filters and blows them clean with reverse air flow. Collected material is emptied automatically.

OTHER EXCLUSIVE TORIT BENEFITS

- automatic filter-shaker mechanism is simple, maintenance-free
- different dusts may be collected separately
- highest air-to-cloth ratios (from 5 to 25:1) and longer filter life
- only ¾ H.P. required for fully automatic operation
- polished 3/16" aluminum construction for minimum floor loading
- modular design—5' wide x 4'-8" long (for two sections) x 15'-6" high—saves space, lends ease and versatility to installation. Use up to 12 modular sections for each application! No limit to CFM capacity!

Write today for literature.

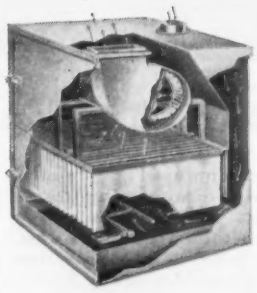
TORIT MANUFACTURING CO.
Automatic Collector Division
Dept. 235 • 1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle NED-701 E1 on enclosed inquiry slip ▲

TORIT DUST COLLECTORS

keep plants clean — lessen employee grievances — save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



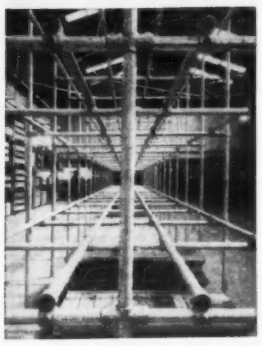
Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.
Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle NED-704 E1 on enclosed inquiry slip ▲

NO NAILING, NO WELDING WHEN YOU USE KEE KLAMPS



What do *you* use for building storage and pallet racks, shelving, platforms, cat walks, scaffolding and things like that? Pipe is best, but has been too hard to use because of all the cutting and threading that had to be done.

BUT NOT ANYMORE! Today . . . thanks to Kee Klamps, those miracle *Threadless Fittings*...pipe is now the easiest...fastest...generally the most economical of all! Because KEE KLAMPS do away with all pipe-threading, actually reduce pipe-cutting by as much as 80% and more.

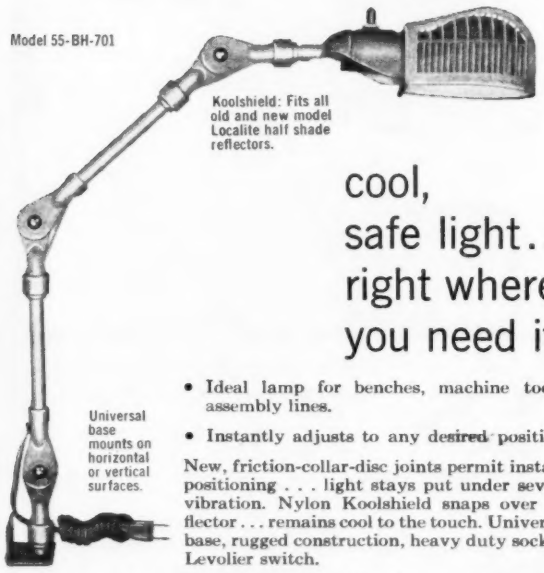
Think of it! Using plain Pipe & KEE KLAMPS, you can eliminate all nailing, bolting, welding, threading ...and almost all cutting! Now, even an unskilled worker can put up a framework of pipe in a *fraction* of the time it used to take an experienced carpenter or welder to build one out of wood or angle iron. And much better, too! Because pipe is stronger, waterproof, fireproof, won't warp or crack.

Send right now for FREE File Folder that tells all about KEE KLAMPS.

KEE KLAMPS NORTH AMERICA LIMITED
1070 WILLIAM STREET: BUFFALO 6, NEW YORK
In Canada: P. O. Box 370, Station T, Toronto 19, Ontario

For more details circle NED-705 E1 on enclosed inquiry slip

FOSTORIA LOCALITES



cool, safe light... right where you need it!

- Ideal lamp for benches, machine tools, assembly lines.
- Instantly adjusts to any desired position.

New, friction-collar-disc joints permit instant positioning . . . light stays put under severe vibration. Nylon Koolshield snaps over reflector . . . remains cool to the touch. Universal base, rugged construction, heavy duty socket, Levolier switch.

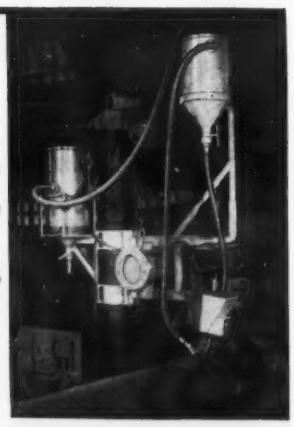
Write for catalog of Localites for every industrial need.

Available through wholesalers everywhere.

FOSTORIA CORPORATION
FOSTORIA, OHIO

For more details circle NED-706 E1 on enclosed inquiry slip

• Automatic operation of Invincible installation makes possible complete recovery of unfused flux from circumferential butt weld operation.



INVINCIBLE
WELDING FLUX RECOVERY SYSTEMS

Reclaim Flux Automatically... Give Big Return on Investment

With Invincibles on submerged arc welding jobs, one manufacturer salvages 100 pounds of flux daily . . . another reclaims $400 worth a day. Value of material *alone* repaid cost of units in a few weeks.

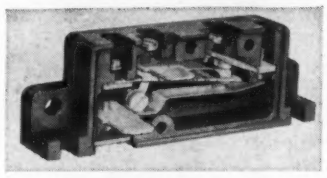
Invincible units recover all unfused flux, remove powder and return slag-free, dust-free flux to the welder in a *continuous* flow. They also save costly man-hours over manual methods, speed production and minimize rejects by eliminating flux flour. Compact, flexible Invincibles are ruggedly built for long service.

WRITE FOR FOLDER describing wide range of automatic and manual models.

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

For more details circle NED-707 E1 on enclosed inquiry slip

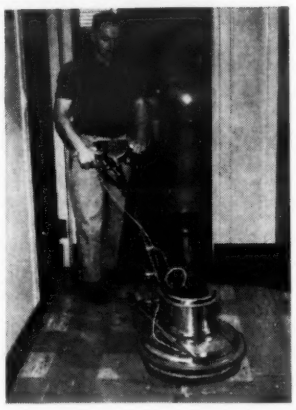
TIME DELAY RELAY
100 ma to 10-amp thermal type



Bakelite housing, two mounting variations, and terminals that accept either solder or quick-connect wiring are features of this thermal time delay relay. Designed to simplify circuitry and replace more expensive equipment, it is available with single-pole single-throw normally-open or normally-closed contacts, two independent circuits, or single-pole double-throw contacts. Rating is 100 ma to 10 amp, up to 115 v ac. Price is 90 cents each in lots of 100. • **E-T-A Products Co.**, 6285 N. Cicero Ave., Chicago 46, Ill.

For more details circle NED-708 E1 on enclosed inquiry slip

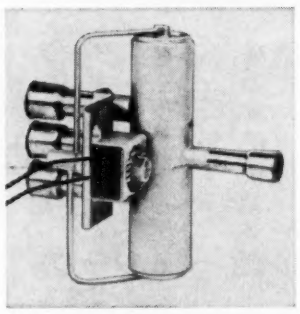
FLOOR MACHINE ATTACHMENT
patches, restores floor finishes



Operator of a floor machine to which the Spray-Buff attachment is affixed can spray a wax-water or resinous-water solution on selected floor areas requiring special attention during buffing. Designed to facilitate patching or restoring floor finishes, it consists of a polished metal container mounted on the machine handle, and a clear plastic hose leading to spray nozzle attached to the base casting. Attachment fits any make of floor machine to easily remove scuff marks while in motion. Price is $16.50. • **Multi-Clean Products, Inc.**, 2277 Ford Parkway, St. Paul 16, Minn.

For more details circle NED-709 E1 on enclosed inquiry slip

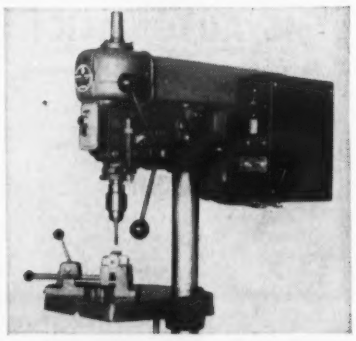
FOUR-WAY REVERSING VALVES
for control of refrigerants



All-metal KV44 four-way reversing valves for control of refrigerants in reverse cycle air conditioning systems, heat pumps, and hot gas defrost applications feature true hermetic valving and plastic encapsulated coils. Full ported poppet type pilot valve is rigidly mounted to the main valve, allowing a shift of the main slide valve with both low and high system pressures. Units are available for all commercial ac voltages with continuous coil power requirement of 19 va ac, and 29 va inrush. Maximum operating pressure differential and safe working pressure are 500 psi; minimum changeover pressure differential is 40 psi. • **General Controls Co.**, 801 Allen Ave., Glendale 1, Calif.

For more details circle NED-710 E1 on enclosed inquiry slip

ELECTRONIC TAPPING UNIT
mounts on side of drill press head



Designed to tap to the capacity of up to 2-hp drill presses, this automatic spindle reversing tapper conversion unit fits multiple spindle drill heads. The electronic unit's electrically interlocked reversing control panel mounts on any standard drill press head. The same fixtures can be used for drilling and tapping. Toggle switches select operation to be performed and right or left hand threads. A cam-operated hand feed wheel simultaneously reverses the direction of both spindle feed and tap rotation. Special high reversal motors for tapping cycles to 50 per minute are available as an accessory in ¾-hp, 1740 rpm and 1-hp, 1140 or 1600 rpm, 220 v three-phase ac. Price is under $230. • **Power Control Products, Inc.**, Vicksburg, Mich.

For more details circle NED-711 E1 on enclosed inquiry slip

It's new! HUNT ONE-INCH PDQ VALVE

Now you can have all the performance-proved advantages of Hunt's PDQ center-line design PLUS the high capacity of full 1 in. size. Short-stroke pilot and lightweight poppet provide fast response.

Cylinder ports front, side and bottom tapped; supply and exhaust ports side and bottom-tapped; basic 1 in. PDQ tapped ¾, 1 or 1¼ in. NPT (basic ½ in. PDQ also available, tapped ⅜, ½ or ¾ in. NPT); for air or vacuum service, pressures from 0 to 125 psig; meets JIC Standards.

Before you buy any valve, be sure you see the PDQ. Call your nearby Hunt representative today. He's listed in Sweet's Product Design File.

For more information, write for Bulletin 602. Address Hunt Valve Company, Salem, Ohio, Dept. NED-561

HUNT
QUICK-AS-WINK® AIR AND HYDRAULIC
VALVES
HUNT VALVE COMPANY • DIVISION OF IBEC • SALEM, OHIO

3012

For more details circle NED-712 E1 on enclosed inquiry slip

SPECIAL TOOLS FOR SPECIAL PROBLEMS

Odd as they look, these are actual production tools. They were manufactured by Xcelite to increase efficiency on special assembly work where conventional hand tools proved inadequate.

Chances are that "special function" tools can speed your production. Supply prints (model if available) of part on which tool will be used. Prototype designed and tooled for your approval. Any quantity . . . to meet your production schedule. Contact factory direct.

Complete information in new "Custom-made Tool" Brochure No. 660. Request on your letterhead.

XCELITE, INC. Orchard Park, N. Y.

XCELITE
INDUSTRIAL HAND TOOLS

For more details circle NED-713 E1 on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS

MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

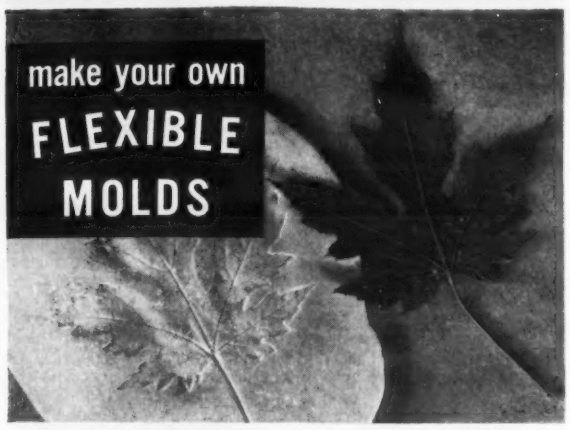
Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-714 E1 on enclosed inquiry slip



Fast, accurate reproductions with SILASTIC® RTV

This Dow Corning *fluid* silicone rubber vulcanizes at room temperature.

- reproduces finest hairline detail
- easy-to-use, quick, economical
- releases readily from most surfaces without parting agent
- withstands 500 F casting temperatures

For full information—address Dept. 5817.

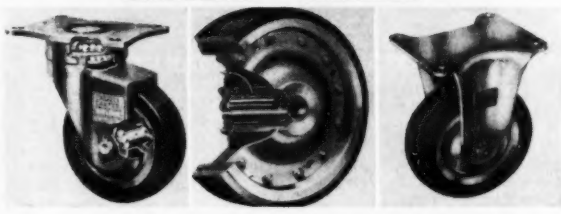
first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

For more details circle NED-715 E1 on enclosed inquiry slip

ECONOMIZE— STANDARDIZE—

...WITH

DARNELL LONGER LASTING CASTERS & WHEELS



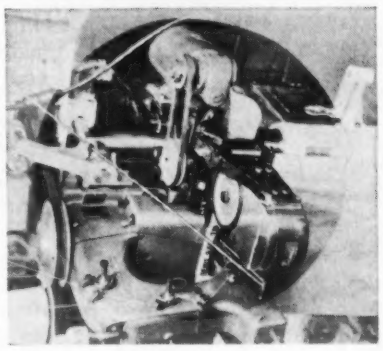
There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements . . .

ASK FOR FREE MANUAL

DARNELL CORPORATION, LTD.
DOWNEY (Los Angeles County) CALIF.
37-28 SIXTY-FIRST, WOODSIDE 77, L.I., N.Y.
36 NORTH CLINTON ST., CHICAGO 6, ILL.
1000 PEACHTREE N. E., ATLANTA, GA.

For more details circle NED-716 E1 on enclosed inquiry slip

BAG-TOP PRINTER
mounted on sewing pedestal, it imprints codes, specifications

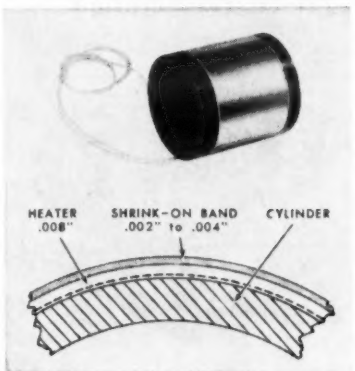


Product specifications or codes are printed above the sewing line of sewn multiwall paper bags by the Bemis Bag Top Printer which is mounted on the sewing pedestal. The power-driven unit utilizes a Porelon microporous plastic ink roll which eliminates use of fluid inks, solvents, or transfer rolls. Rotary print wheel can be quickly changed.

Printing speed is set by a variable speed sheave on motor which is synchronized with speed of conveyor and sewing head. Printer pivots on pedestal column to swing clear of packing line in case printing is not desired on certain bags. Ink rolls are available in black, red, green, and violet colors and can be replaced in 15 sec. • **Bemis Bro. Bag Co.**, 408 Pine St., St. Louis 2, Mo.

For more details circle NED-718 E1 on enclosed inquiry slip

FOIL HEATING ELEMENT
for wrapping around cylinders, is held in place by shrink-on band



Thermofoil flat-element flexible heater is installed on cylindrical surfaces without need for adhesives. The durable heater element has insulation resistance of over 1000 megohms. A shrink-on band is slipped over the element-wrapped cylinder, and, under a few minutes of 200-225° F oven heat, shrink-fits to hold the heater permanently in contact with cylinder surface. Over-all thickness of heater and band is 0.010 to 0.012 in.

Thermofoil elements can have up to 500 ohms per square inch resistance and can be made in unusual shapes. Power dissipation is up to 15 w per sq in. when heater is installed on a heat sink and intimately controlled to 200° F or less. Sensors can be furnished in the same assembly for precise temperature control. Metallized outer covering is normally used over the entire assembly to retain heat. • **Minco Products, Inc.**, 740 Washington Ave. N., Minneapolis 1, Minn.

For more details circle NED-719 E1 on enclosed inquiry slip

Control air and hard-to-hold fluids . . .

O-B Valves with TEFLON PACKINGS

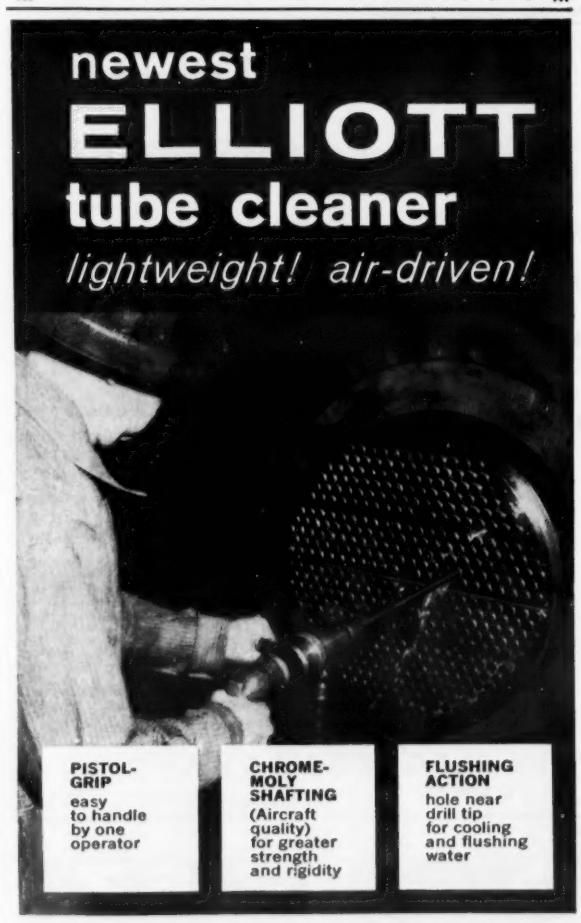
O-B BRONZE VALVES—first to use Teflon-impregnated asbestos-base packings throughout the line—withstand hard use. Their Teflon packing is tough—impervious to damage by all normal influences—smooth-surfaced for frictionless operation—and assures a tight seal on hard-to-handle gases and liquids. Write for latest catalog information.

OHIO BRASS COMPANY
Mansfield, Ohio

Ask your distributor for the valve in the orange-and-black box

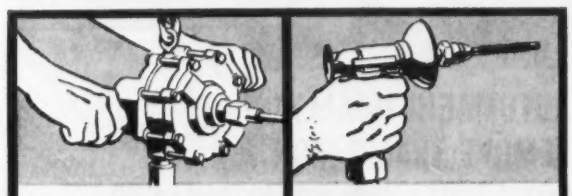
10143-V

For more details circle NED-720 E1 on enclosed inquiry slip



for condenser and heat exchanger tubes

Lightweight. Powerful. Air-driven. Trigger-action control with speed governor to prevent shaft-whip. High-speed motor reduced through planetary gears to 1500 rpm. Integral water-feeding attachment with finger-action valve which controls flow of cooling water into hollow shaft and drill or brush. Drills and brushes for varied needs. Built-in oil reservoir. Send for tube cleaner bulletin Y-48.



SUSPENSION TYPE
Air, steam or electric heavy-duty motor, for removing hard, heavy deposits. Ball bearings absorb thrust in either direction.

ELLIOTT JIFFY GUN
For extra-fast cleaning of light deposits in tubes ½ in. to 1¼ in. Air or water pressure shoots nylon brushes or rubber plugs through tubes.

YI-3A

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

For more details circle NED-721 E1 on enclosed inquiry slip

CONTROL

New! Cutler-Hammer Size 00 A-C Magnetic Starter... 20% smaller...18% less cost

Now save space and money with the all new Cutler-Hammer Ac-Magnetic Starter. The new Size 00 fits about 40% of the applications where the Size 0 is now used. You still get the famous Three Star line quality—same high reliability—famous vertical, dust-free silver contacts. Max. hp ratings: 3 phase: 208/220V., 1½ h.p. 440/550V., 2 h.p. Single phase: 115V., ½ h.p. 230V., 1 h.p. Get it open or in NEMA 1 enclosure. Send for Pub. LO-40-J251.

WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer, Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer, Mexicana, S. A.

For more details circle NED-717 E1 on enclosed inquiry slip

Textile Counting Plates - $1.00 Henry Disc. - $10.00 Battery Disc - $10.00

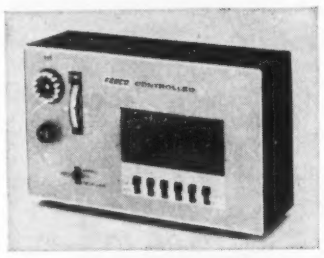
All electric and battery handles - other parts are interchangeable—phone or write for catalog or contact your local dealer

E. W. PIKE & CO., INC.

577 Pennsylvania Ave. • Elizabeth, New Jersey • EL 2-0630

For more details circle NED-723 E1 on enclosed inquiry slip

PROCESS VALVE CONTROLLERS
sequence and time up to 12 valves in schedules of up to 14 days



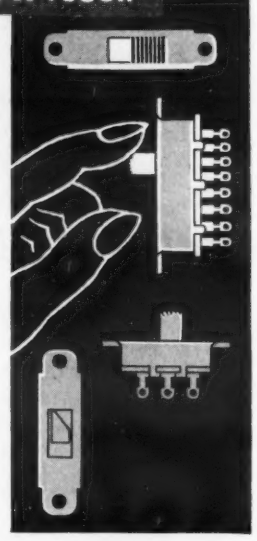
Human error factor of manual operation and need for complex timing equipment are eliminated by use of Model C-6 or C-12 miniatured electronic controllers. Two sizes are suited for automatic operating and timing of up to 6 or 12 No. 1825 remote control valves in sequence by electrical current impressed by individual timing wheels. They may be set to open at any time and flow from 3 to 60 min on individual cycles. Separate on-off switches shut down any valve without affecting the others.

An omitting wheel permits scheduling up to 14 days; this schedule is repeated until reset. A master switch provides for complete shutdown. Both six and 12-valve models are available with an auxiliary circuit that will operate a booster pump whenever a valve is opened. Existing manual valves are converted to remote control operation with Febco remote control adapters. Controllers may be mounted indoors or outdoors. • **Febco, Inc.**, 1993 Blake Ave., Los Angeles 39, Calif.

For more details circle NED-726 E1 on enclosed inquiry slip

STACKPOLE S-L-I-D-E **SWITCHES**

FOR THE Modern TOUCH



Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line — with ratings and features to match your requirements.

- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

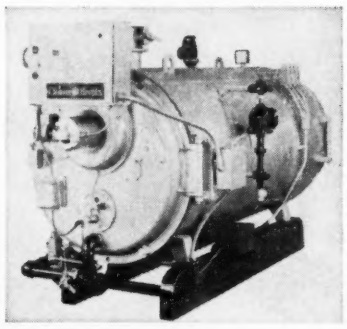
low cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle NED-729 E1 on enclosed inquiry slip

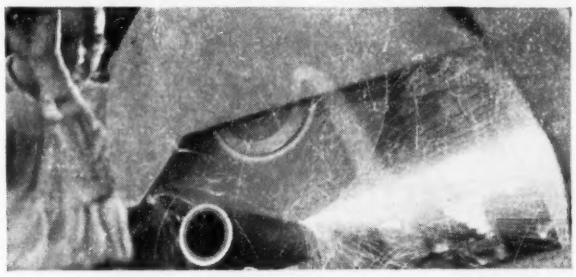
PACKAGED BOILER
25 to 100-hp models fired by gas, No. 2 oil, or gas-oil combination



Models that can be fired by gas, No. 2 oil, or combination of gas and light oil are provided in the CBH Series of 25 to 100-hp packaged boilers. These four-pass, quiet operating, automatic units can be used for 15 to 250 psi steam or hot water systems and have minimum efficiency of 80 per cent on light oil or gas. Boilers have high and low firing rates and change from one to the other in response to load demands. Electronic programmer shuts down burner in case of flame failure and also purges boiler of fuel vapors before and after each firing cycle.

Radiant jet type gas-fired units are approved for use with natural, manufactured, or LP-gas, whereas oil-fired models have high-pressure burners with a nozzle that atomizes No. 2 oil and burns it like gas. If gas-oil combination is used, operator can switch from one fuel to another in less than 1 min. • **Cleaver-Brooks Co.**, 326 E. Keefe Ave., Milwaukee 12, Wis.

For more details circle NED-727 E1 on enclosed inquiry slip



Cut to your order . . . F-C Glasteel pipe*

Immediate delivery is what you can now get when you need odd-size lengths to 10 feet of a corrosion-resistant, high-integrity lined pipe.

That's the availability story on Pfaudler® F-C Glasteel pipe when you order to size from our factory.

The F-C stands for "field cut." Which means you can also cut it in your own plant with a standard dry-abrasive cutoff wheel. After that it's a simple matter of threading, fire-polishing (using a small, portable furnace available from Pfaudler), and finishing with a belt sander.

F-C pipe is *steel* outside for strength and has a ⅛-inch-thick *glass* lining that stands up to all acids (except HF) to 350° F., and most mild alkalies at moderate temperatures. You can also use this pipe with abrasive fluids, sticky materials, and those you want to protect from contamination.

This pipe is rated at 150 psi and is supplied in 1½, 2 and 3-inch diameters.

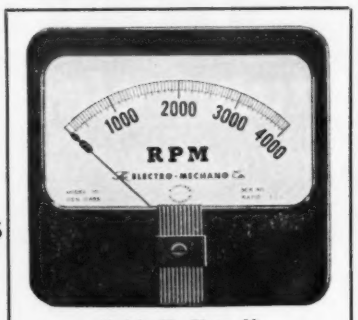
For Complete Specifications, write to our Pfaudler Division, Dept. NED-51, Rochester 3, N.Y. *Patent applied for

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

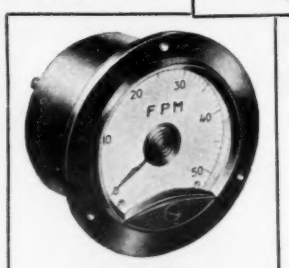
For more details circle NED-730 E1 on enclosed inquiry slip

Panel TACHOMETERS

DESIGNED FOR:
ENGINES
BOATS
CANNING MACHINERY
PAPER MACHINERY
MACHINE TOOLS
OIL WELL EQUIPMENT
LABORATORIES



Models 29, 70 or 90



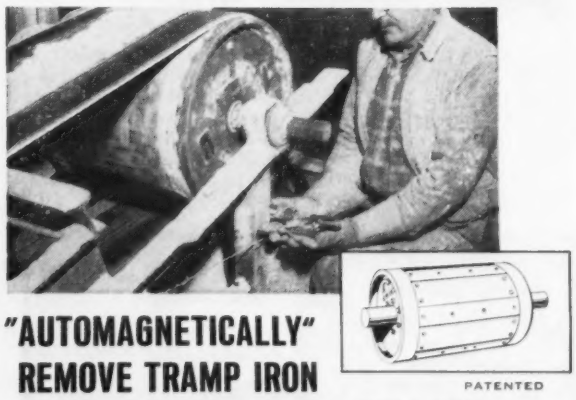
Model 25

CUSTOM DIALS TO YOUR SPECIFICATIONS
No Delay
7 Styles of Indicators
NO WEARING PARTS
Indicator can be located up to 300′ from sender
Write for Literature and Prices

The ELECTRO-MECHANO CO.
261-1 E. Erie St. Milwaukee 2, Wis.

For more details circle NED-724 E1 on enclosed inquiry slip

ERIEZ 60 seconds that



"AUTOMAGNETICALLY" REMOVE TRAMP IRON WITH ERIEZ MAGNETIC PULLEYS

PATENTED

Prevent machinery damage, danger of fires and explosions, and product contamination. Remove unwanted iron from your processing lines with an Eriez Permanent Magnetic Pulley. With Eriez you choose the Erium® powered unit designed to perform best on your specific separation problem. Up to 36" diameter, all belt widths, 2 types of construction, 4 magnetic strengths.

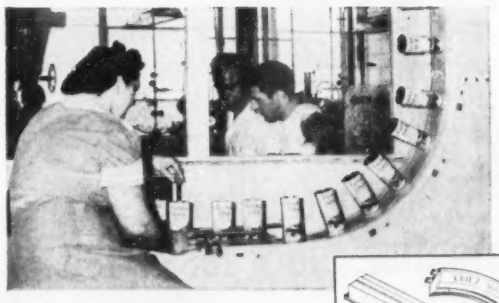
For descriptive bulletin write to:

ERIEZ — A GROWTH COMPANY . . . 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO. 80SA Magnet Dr., Erie, Pa.

For more details circle NED-725 E1 on enclosed inquiry slip

MAGNETIC will help you improve



MOVE STAMPINGS, PARTS, CONTAINERS, ETC. UP 90° INCLINES...FASTER, SAFER!

Eriez non-electric, life-time powered permanent magnetic Magna-Rail elements fastened behind conveyor belts, grip cans, ferrous parts, etc. — run them swiftly up (or down) any distance, around sharp inclines, on top, bottom or side! Magnetic conveying reduces manual handling, gives you better, safer control, and saves valuable floor space. Important too: These components are easily installed in new or existing systems.

For bulletin on sizes and other data, write:

ERIEZ — A GROWTH COMPANY . . . 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO. 80SB Magnet Dr., Erie, Pa.

For more details circle NED-728 E1 on enclosed inquiry slip

MINUTE operating efficiency!

Keep Stubborn Materials Moving with HI-VI UNIT (BIN) VIBRATORS

PATENTED

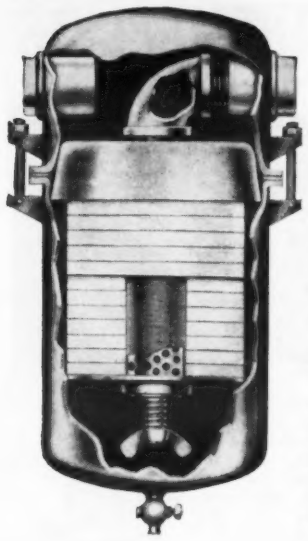
Concentrated, dependable vibration, where it's needed most, prevents pile-up, arching, and bridging. Sticky, bulk, or granular materials flow smoothly through hoppers, bins, and chutes. Eriez AC operated electro-permanent magnetic bin vibrators perform well regardless of load change. Immediate delivery on models for any size bin, handling loads up to 50 ton capacities. Special models for hazardous, dusty locations.

Write for descriptive bulletin to:

ERIEZ — A GROWTH COMPANY . . . 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO. 80SC Magnet Dr., Erie, Pa.

For more details circle NED-731 E1 on enclosed inquiry slip



Keep Dirt, Moisture from Pneumatic Instruments.

Dollinger Staynew Filters allow only clean dry air to pass into delicate apparatus. Offer peak efficiency at pressures to 125 psi . . . durable, lightweight . . . swing bolts provide ease of cleaning without breaking connection. Available in pipe sizes from ¼" to 4". Write for Composite Catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, New York.

STAYNEW DOLLINGER FILTERS

▲ For more details circle NED-732 E1 on enclosed inquiry slip ▲

PERFECTION IS NO ACCIDENT

FINE ORGANICS

IS CONTINUALLY JOB-TESTING AND LAB-TESTING GENERAL PURPOSE CLEANERS

After almost a quarter of a century in this field — we know from experience the surest way of producing better General Purpose Cleaning Products is to consult the maintenance men who use them. FINE ORGANICS reviews countless case histories, speaks to maintenance supervisors and personnel in every type of industry. As a result of this continuous research, FINE ORGANICS has a family of General Purpose Cleaners tailor-made to meet almost every need . . . and cut costs, too!

The FINE ORGANICS list of satisfied customers, both large and small, is growing day by day.

Another specialty of our house is our custom service. If you have a special cleaning problem, write and tell us about it. If it can be licked, you can be sure FINE ORGANICS will do it for you!

In our big family of **F.O. General Purpose Cleaners** there's one for practically every job . . . and every one will save you time and money

F.O.-169 General Purpose Safety Cleaner
F.O.-170 Heavy Duty General Purpose Steam Cleaner
F.O.-283 General Purpose Cleaner & Wax Remover
F.O.-287 Liquid Steam Cleaner
F.O.-302 Airport Apron Cleaner
F.O.-302C Airport Apron Cleaner Concentrate

FREE "AN INDEX TO SOLVING MAINTENANCE PROBLEMS" — Informative Technical Booklet.

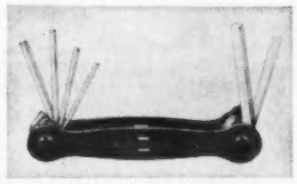
Write today to Dept. NE-5

FINE ORGANICS, INC.
205 MAIN ST., LODI, NEW JERSEY
Warehouses in Principal Cities

A COMPLETE FAMILY OF FINE MAINTENANCE PRODUCTS

▲ For more details circle NED-733 E1 on enclosed inquiry slip ▲

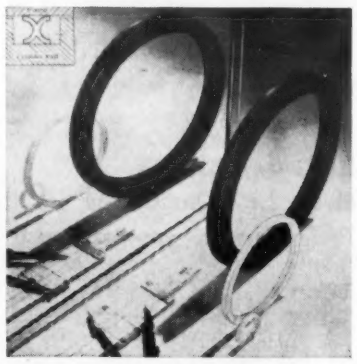
METRIC HEX KEY PACK
six keys mounted in pocket case



Work on foreign engines and equipment is made easier with the K-D 45 metric hex key pack. It provides 2, 2½, 3, 4, 5, and 6-mm hex keys mounted in a metal pocket case which measures only 3⅞ in. long folded. Bolt assembly facilitates key replacement. Other metric key sizes are also available. • **K-D Tool Co.**, Lancaster, Pa.

▲ For more details circle NED-734 E1 on enclosed inquiry slip ▲

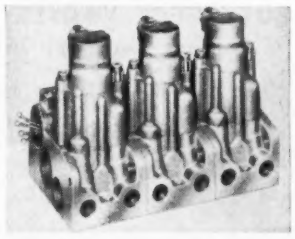
SEAL RING
cup type is made of Teflon



Called the X-Seal because of its X-shaped cross section, this Teflon seal ring is installed with either slight or moderate seal contact pressure or interference. The cup type ring is said to be more resilient than O-rings. It requires only slight stretching during installation, as lips permit flexing. Used on oscillating, reciprocating, and rotating shafts, and in static applications, its sealing efficiency increases with pressure. Ring has a −300 to 500° F usable range, is inert to chemical attack, and does not deteriorate with age. With heavy wear or extreme temperature variation, seals are made of Salox reinforced Teflon. Seals are made in 126 standard O-ring sizes from 0.114 to 4.475 in. ID. • **Allegheny Plastics, Inc.**, 25 Thorn Run Rd., Coraopolis, Pa.

▲ For more details circle NED-735 E1 on enclosed inquiry slip ▲

MANIFOLD VALVE BASE
for ganging two or more valves

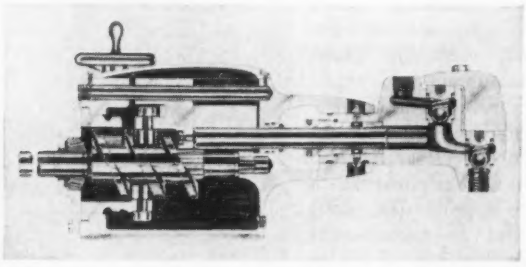


Common supply, exhaust, and wiring conduit ports are a feature of this cast aluminum modular manifold base for multiple mounting of ½ in. PDQ control valves. Built to JIC standards, it can be ganged end-to-end to combine two or more valves into a single compact assembly. Bayonet lock construction of the valve permits removal and installation of valve and pilot assembly in 30 sec without disturbing piping or wiring. Side and bottom cylinder ports are tapped for ⅜, ½, or ¾-in. NPT. Supply port is 1-in. tapped both ends and bottom, while exhaust and wiring conduit ports are 1¼ in. NPT on both ends and bottom. Individual junction boxes opening into the wiring conduit are provided at each valve. • **Hunt Valve Co.**, 1913 E. State St., Salem, Ohio.

▲ For more details circle NED-736 E1 on enclosed inquiry slip ▲

PROPORTIONING PUMP
simplex and duplex models offered

Capacity of the Series 300 proportioning pump is adjustable while it is operating. Output of two cams in the control mechanism is combined to vary the stroke

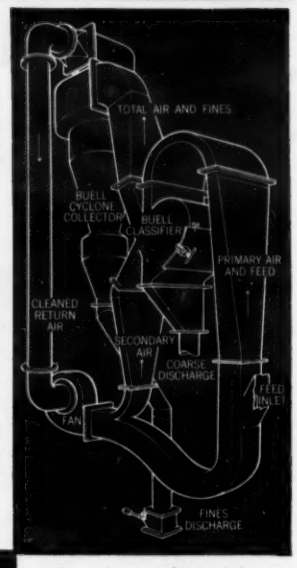


from zero to maximum. Simplex model has capacities from 1 to 812 gph and the duplex model has 2 to 1624-gph capacity, both at 10,000 psi. Interchangeable liquid ends are produced in various corrosion resistant materials. Plungers with ¼ to 2¾-in. diameters are offered in ceramic, chrome plated, steel, and stainless steel types. Control can be manual, remote, or automatic. • **American Meter Co.**, Pump Div., 13500 Philmont Ave., Philadelphia 16, Pa.

▲ For more details circle NED-737 E1 on enclosed inquiry slip ▲

▲ For more details circle NED-738 E1 on enclosed inquiry slip ▲

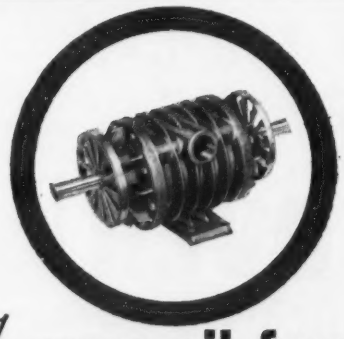
HIGH-EFFICIENCY DRY-PRODUCT CLASSIFIERS



Buell Classification Systems are engineered to specifications that assure maximum performance at moderate cost. Designed for separating dry powdered material from coarse material with unusually fine product range from 10 to 400 mesh. **Low power requirements** (0.04 to 0.5 fan HP per ton per hour of feed); **Large capacity** (100 pounds to 100 tons per hour of feed product; **No moving parts** (no maintenance problems); **No restriction on particle size or temperature.** Send for descriptive bulletin. Buell maintains a laboratory for tests with full-scale equipment. Pilot equipment also available for field testing. Write: Buell Engineering Company, Inc., Dept. 23-E, 123 William Street, New York 38, New York. Northern Blower Division, 6435 Barberton Ave., Cleveland, Ohio. BUELL-NORBLO Cyclones, Electric Precipitators, Bag Collectors, Combination Systems, Dry Classifiers, Fans, Hopper Discharge Valves.

buell Norblo

▲ For more details circle NED-739 E1 on enclosed inquiry slip ▲



20% more oil-free air

The all-new M-D DRY AIR pumps deliver 20% more air flow than previous models. Seven models deliver guaranteed oil-free dry air in constant flow from 1 to 40 CFM and provide vacuums to 25" HG or pressures up to 35 PSIG.

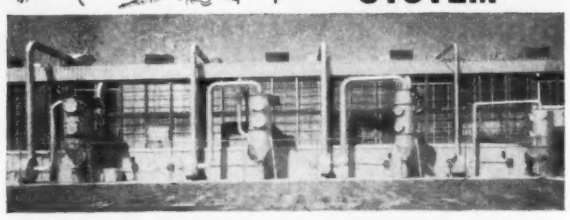
Aircraft quality tolerances
Factory tested • No oiling • No greasing
7 Gas-Tight Models Also Available

Write for free literature
M-D BLOWERS, Inc., RACINE, WIS.
A subsidiary of Miehle-Goss-Dexter, Inc.

▲ For more details circle NED-740 E1 on enclosed inquiry slip ▲

Selected for this Critical Application*

SPENCER VACUUM SYSTEM



*Recognizing the dangers in machining beryllium, Speedring Corp., manufacturers of high precision beryllium instrument parts, specified Spencer vacuum systems which provide:

PRESSURIZED PICKUP—High velocity hoods are tied in to the vacuum system wherever dust is created.

COMPLETE CONTAINMENT—Chips and dust are carried off through a "sealed" system.

100% SEPARATION—Spencer's positive action centrifugal separators are arranged to assure **complete** removal of any toxic traces before air is exhausted.

Request catalogs No. 155B, "Spencer Vacuum" and No. 143B, "Pneumatic Conveying".

The SPENCER TURBINE COMPANY
HARTFORD 6, CONNECTICUT

For more details circle NED-741 E1 on enclosed inquiry slip

Speed Up Small Parts Inspection!

★ Vibratory Feed for Even Flow
★ Adjustable Belt Speeds, Rate of Feed
★ Variable Center Drop Turns Work Over

Ideal for small parts and moldings, GOODMAN INSPECTION TABLES pay for themselves in months! Users report two girls now doing work of eight! Faster, smoother inspection, better quality control, less inspector fatigue. Smaller-sized and luminous belt models, too!

Write for Interesting Folders and Prices!

Sales Representatives:
RALPH B. SYMONS ASSOC., 3573 Main Rd., Tiverton, R. I.
WILLIAM A. SAFKA, 11 Sycamore Road, Levittown, Pa.
R. A. ROOSEVELT CO., 4909 E. Florence Ave., Bell, Calif.

G. F. GOODMAN & SON
1007 E. Columbia Ave., Philadelphia 25, Pa.

For more details circle NED-742 E1 on enclosed inquiry slip

NOW YOU CAN PAINT OVER RUST

Brush or spray OSPHO on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — prepares galvanized and aluminum surfaces for paint.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

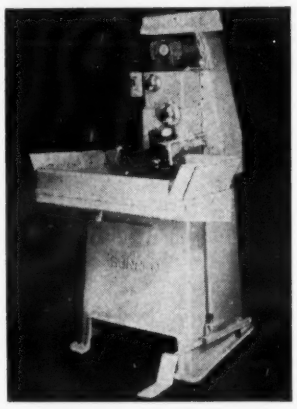
For more details circle NED-743 E1 on enclosed inquiry slip

ULTRASONIC SYSTEM
for cleaning, dissolving, blending

Intended primarily for cleaning, Model SG-3 ultrasonic system can be used for dissolving, blending, emulsifying, de-aerating, and impregnating. System is available with standard interchangeable tanks of 4, 5, and 8-gal capacity, as well as smaller 1, 2, and 3-gal tanks for achieving increased sonic power density. The magnetostrictive transducer will not heat processing fluids when work is done at low temperatures. It provides maximum sonic output even with fluids at temperatures up to 400° F. Built-in timer assures processing accuracy. • **Blackstone Corp.**, 1111 Allen St., Jamestown, N. Y.

For more details circle NED-744 E1 on enclosed inquiry slip

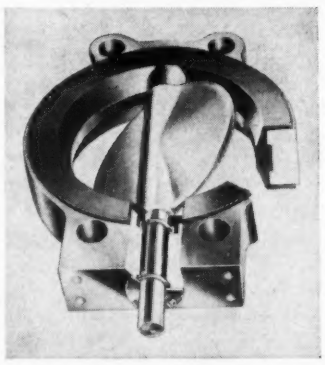
VERSATILE HONING MACHINE
handles 0.100 to 2.625-in. bores



A wide range of easy-to-select spindle speeds and a double reduction belt drive that delivers full power from a ½-hp motor at all speeds are featured by this versatile honing machine. Drive is fully enclosed for safety, and unit will handle any honing application on 0.100 to 2.625-in. bores with standard tooling. Bores to 5.5 in. can be honed with tooling built to order. • **Sunnen Products Co.**, Dept. H-34, 7910 Manchester Ave., St. Louis 17, Mo.

For more details circle NED-745 E1 on enclosed inquiry slip

BUTTERFLY VALVE
shuts tight at 150 psi



Snap-in replaceable rubber liner in the Double R/L butterfly valve assures bubble-tight shutoff on vacuum service and differential pressures up to 150 psi. Unit has a −60 to +400° F range, depending upon type of liner rubber selected, and is offered in 2 to 12-in. sizes. Valve never needs lubrication and is disassembled with hand tools. Self-aligning shaft holes in the liner speed reassembly. • **Continental Equipment Co.**, 200 Main St., Coraopolis, Pa.

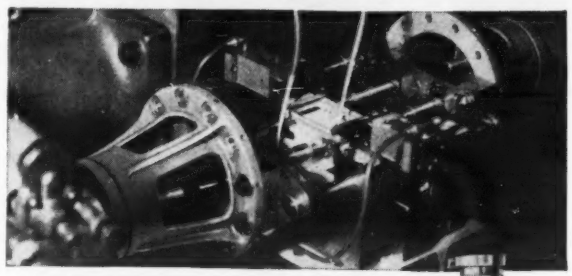
For more details circle NED-746 E1 on enclosed inquiry slip

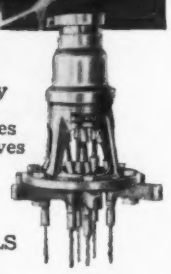
SONIC HOMOGENIZER
handles water-to-semipaste viscosity

Liquid viscosities from water to semipaste are handled by the Rapisonic Mark V sonic homogenizer for the food, chemical, pharmaceutical, and other processing industries. Unit can be disassembled for cleaning in 5 min and is offered in a 2 to 4 gpm pilot plant model and production unit capable of 15 to 20 gpm. In operation, liquids to be homogenized are forced, in a jet stream, against a blade which vibrates at its natural frequency, causing cavitation in the stream. This action emulsifies a gallon batch without premixing in less than 1 min. Unit is mounted on a portable base, can be locked in place, and is powered by a 220/440 v, 60-cycle, 3-phase, explosion-proof motor. • **Sonic Engineering Corp.**, 146 Selleck St., Stamford, Conn.

For more details circle NED-747 E1 on enclosed inquiry slip

PAID FOR THEMSELVES
on the first job





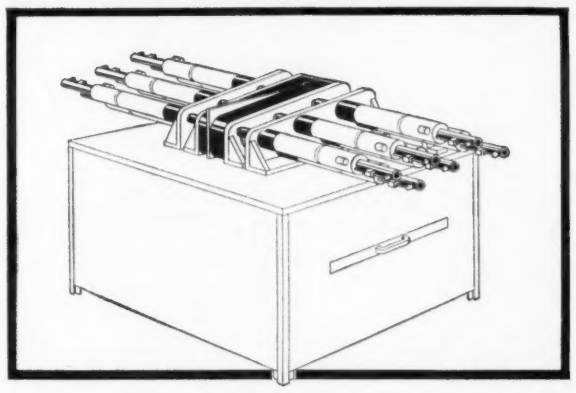
MULTI-DRILLS are self-liquidating adjustable multiple spindle drill press attachments for production drilling. They multiply the speed, efficiency and production of men and machines many times over. They can quickly pay for themselves —often in the first week of operation. MULTI-DRILLS are available in many models designed to drill from 2 to 15 holes (and more) at one stroke of a drill press. Thousands of MULTI-DRILLS in use today are proving that you can save time and money by multiple drilling with a Commander Adjustable MULTI-DRILL. Ask your nearby Commander Distributor to show you how a MULTI-DRILL can reduce your hole costs.

Write for the Production Tool Catalog today.

110

Commander MFG. CO.
4220 WEST KINZIE • CHICAGO 24, ILLINOIS

For more details circle NED-748 E1 on enclosed inquiry slip



Glass drilling problems?

Now get true, clean holes . . . minimize breakage. Drill glass with a Gardner-Denver automatic production machine. Utilizing one or more Gardner-Denver "Airfeedrill"® units, this machine assures safe, accurate drilling in glass. Handles complete cycle automatically. Write for details.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-749 E1 on enclosed inquiry slip

The Alemite Industrial Fittings Catalog

HAS THE RIGHT FITTING FOR EVERY APPLICATION

Send for your FREE fully illustrated catalog, Form #38-23

Dependable lubrication fittings for every industry . . . for every need. Look to Alemite – originator of pressure lubrication – for the right fitting.

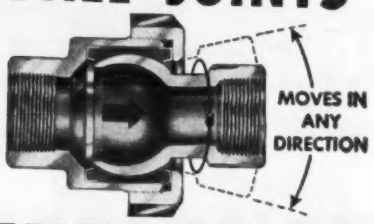
Specialized fittings to meet your exact requirements can be made by Alemite.

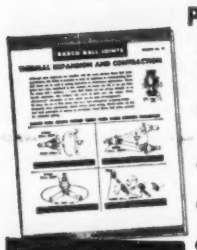
Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION

For more details circle NED-750 E1 on enclosed inquiry slip

BARCO *Flexible* BALL JOINTS

NOW! An easy way to solve PIPE EXPANSION PROBLEMS





Send for New Bulletin No. 31

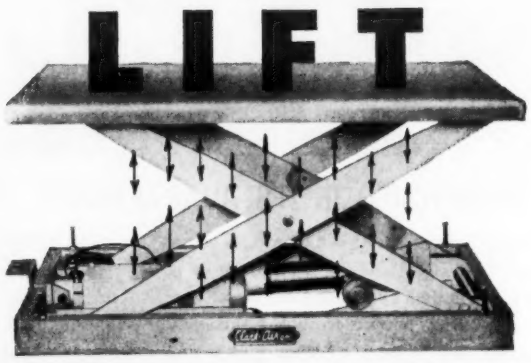
Barco Flexible Ball Joints make it easy and economical for you to solve many problems where piping EXPANDS and CONTRACTS!

- No heavy pipe anchoring required. No "end thrust" developed under pressure. Minimum space needed.
- Ability to handle compound movement where twisting is also involved.
- Virtually no deterioration. Able to stay in service for years. No lubrication.
- Maximum safety for high temperature and pressure. Sizes ¼" to 12".

Read interesting Bulletin 31, "How to Solve Piping Flexibility Problems". Complete with piping layout drawings and illustrations. Shows how to cut costs, save time, and do a better job! *Ask for recommendations.* BARCO MFG. CO., 530F Hough St., Barrington, Illinois.

▲ For more details circle NED-751 E1 on enclosed inquiry slip ▲

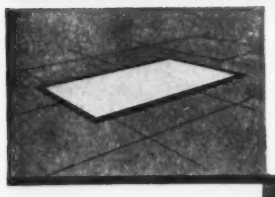
EASY WAY TO GET A LIFT



FOR LOADS UP TO 6000 LBS.—IN MATERIALS HANDLING SYSTEMS OR FOR CONVENIENT PORTABLE USE

Standard sizes afford a wide selection of heights that readily adapt them to changing requirements—from floor level to a height of 48" and will lift up to 6000 lbs. depending on the unit. Control is fast and sure for any height positioning and with electronic accessories automatic positioning is available. Special cradle tops are available for handling paper rolls and other cylindrical materials.

Clark-Aiken STANDARD LIFT TABLES



FLOOR LEVEL INSTALLATIONS WITH SAFETY TOE GUARD

Tables may be flush floor mounted with disappearing toe guards for safe operation.

EASY TO MOVE FOR PORTABLE USE

Portable unit is wheel mounted; makes easy mobility around the shop for your requirements.

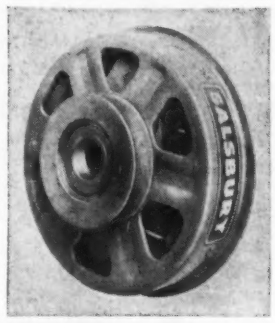
Send today for informative bulletin. Tell us your requirements and we will recommend table size.

THE *Clark-Aiken* COMPANY
105 HART ST. LEE, MASSACHUSETTS

Canadian Representative: Gordon W. Keates
133 Flora Drive, Scarborough, Ontario

▲ For more details circle NED-752 E1 on enclosed inquiry slip ▲

AUTOMATIC CLUTCHES for 6-10 hp gasoline, diesel engines



Light, strong steel construction of Centri-Dyne automatic clutches for 6 to 10-hp loads provides built-in forced draft ventilation for cool operation. Available models include standard sizes of single and double groove sheaves, chain sprockets, timing belt pulleys, and direct coupling clutches. Load-free idling, smooth application and release of load by throttle control, and sudden overload or stalling protection are among features. • **Salsbury Corp.**, 1161 E. Florence Ave., Los Angeles 1, Calif.

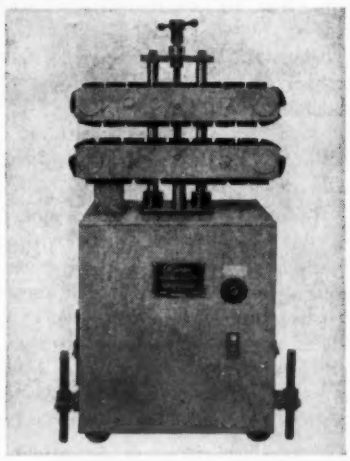
▲ For more details circle NED-753 E1 on enclosed inquiry slip ▲

SOAP DISPENSER for powdered or liquid soaps

Up to 40 oz of powdered soap or 34 fl oz of liquid soap are held in the Model 50 convertible soap dispenser. Easily converted to either service, it has a stainless steel nameplate to indicate the type of soap. Dispenser is made of plated steel and heavy melamine, and is rust-proof and vandalproof. Standard color is white. • **United States Borax & Chemical Corp.**, 20 Mule Team Products Dept., Box 75128, Sanford Station, Los Angeles 5, Calif.

▲ For more details circle NED-754 E1 on enclosed inquiry slip ▲

EXTRUSION TAKE-OFF handles shapes without distortion

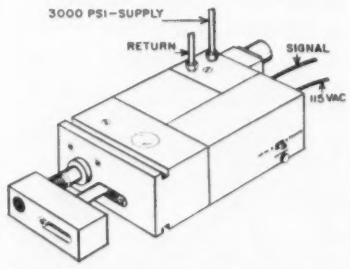


Two horizontally opposed endless caterpillar belts of the D500 universal take-off machine have resilient foam neoprene blocks which gently conform to any 0 to 4-in. extruded contour. Positive, nonslip, dead center pull is provided on all extruded profiles, cables, tubes, and rigid, brittle, and flexible sections without distorting, scratching, marring, or dulling the product finish. Constant pull hydraulic drive is unaffected by heat, friction, or load. Machine synchronizes with any extruder, takes up 19 x 28 in. of floor space, and costs $1875. • **Farris Universal Machine Corp.**, 551 Commercial Ave., Palisades Park, N. J.

▲ For more details circle NED-755 E1 on enclosed inquiry slip ▲

SERVO ACTUATOR for machine tools and presses

Standardized Model 410 servo actuator can be furnished with any stroke length from 1 to 6 in. and cylinder diameters from 1¼ to 2½ in. The self-contained unit includes a servo amplifier, servo valve, and a hydraulic cylinder. Having a built-in power supply, its command can be either by potentiometer or external electric signal. Control is local or remote.



Output thrust at full piston speed is up to 5 tons. Speeds up to 40 ips and frequency response to 60 cps (90-degree lag) are offered. The servo amplifier is easily adjusted at the point of use. Modular hydraulic equipment permits easy interchange of servo valves, locking or check valves. Fail-safe, locking, or limit switch features can be added. • **CompuDyne Corp.**, 631 S. Warminster Rd., Hatboro, Pa.

▲ For more details circle NED-756 E1 on enclosed inquiry slip ▲

STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%

Stripe-action roller gun

WITH FF GLUE GUNS

Roller gun, plunger actuated

You can throw away your messy rolls, clogged brushes, open glue pots when you install FF glue guns. And you cut gluing costs up to 83%! Because the amazing FF system is totally enclosed, engineered to put glue exactly where you want it and in the precise amount required . . . fast, efficiently and without waste. Over 600 stocked models handle most mechanical and manual operations . . . with specials and miniatures available to meet any unusual gluing conditions. Easy to install and operate. Fully guaranteed. Thousands of enthusiastic users. Illustrated catalog available upon request. Write, wire or phone for your copy today.

Plunger-action valve body

JOHN P. FOX COMPANY, INC.
1107 S. Mountain FF Monrovia, Calif.
"FF GLUE GUNS . . . since 1946"

Spot guns, machine mount

▲ For more details circle NED-757 E1 on enclosed inquiry slip ▲

Talk in the QUIET environment of a BURGESS-MANNING ACOUSTI·BOOTH placed in the *noisiest* areas

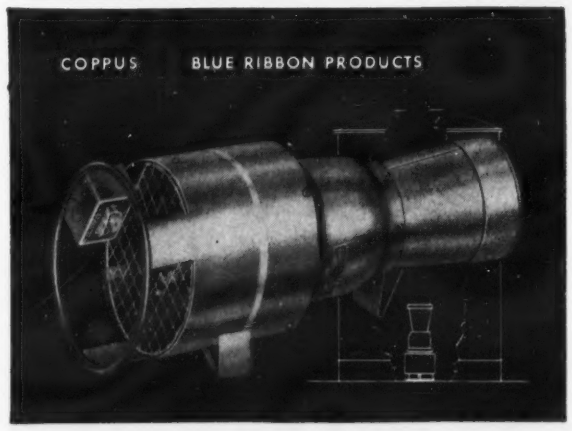
outside sounds HUSH as you walk in . . . no rush to distant shop office for important phone calls

The No. 45 above achieves the utmost in acoustical efficiency. No other booth approaches its sound absorbing performance. Open construction allows full ventilation—no hot or stuffy feeling—no stale odors—no doors to maintain. Available for wall mounting, or free-standing on steel legs.

Write for ACOUSTI-BOOTH catalog today showing No. 45 and many other models.

ARCHITECTURAL PRODUCTS DIVISION
BURGESS-MANNING COMPANY
733 East Park Ave.
Libertyville, Ill.

▲ For more details circle NED-758 E1 on enclosed inquiry slip ▲



COPPUS "Blue Ribbon" Ventilator-Blowers are portable and easily adaptable . . . for supplying fresh air or discharging foul air or fumes. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
405 Park Avenue, Worcester 10, Mass.

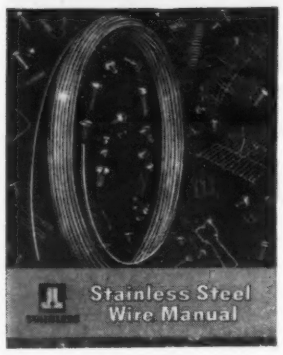
- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name . . . . . .
Company . . . . . .
Address . . . . . .
City . . . . . .

COPPUS BLOWERS

▲ For more details circle NED-759 E1 on enclosed inquiry slip ▲

New Design Manual



Stainless Steel Wire

Here's a brand new, 20 page manual giving design data on J&L Stainless Steel wire. With it, the design engineer can easily select the best stainless for the requirements of his specific applications.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- APPLICATIONS
- LABORATORY CORROSION DATA
- STANDARD GAUGES

Send today for your free copy
WRITE TO DEPT.-1575

Jones & Laughlin Steel Corporation
STAINLESS AND STRIP DIVISION
Box 4606, Detroit 34, Michigan

STAINLESS
SHEET · STRIP · BAR · WIRE

For more details circle NED-760 E1 on enclosed inquiry slip

Don't be a SLAVE to your mower!

If you have: High grass cutting and trimming costs • frequent repair problems • streaks, rolled down and uncut grass • low turn-in value . . . it's time to buy a

Lifetime
Locke POWER MOWER
and trimmer

Lockes feature "floating" action, "fingertip" control, perfectly balanced, fully synchronized chain driven reel-blade-cutters. Overhangs borders by 1/3. Reduces cutting time in half.

2 Models—
Single and Triplex
4 Basic Sizes—
25", 30", 70" and 75"

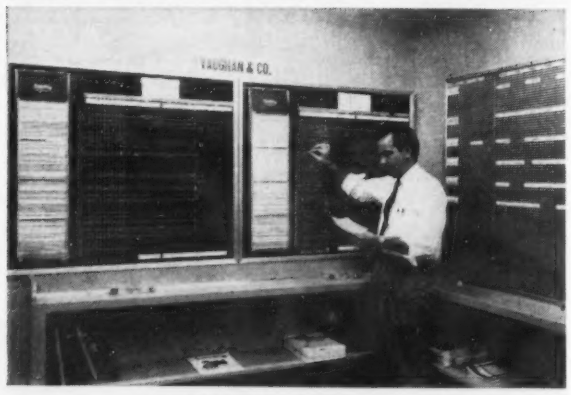
Get a demonstration today!

Send for literature.

Locke POWER LAWN MOWERS
1087 CONNECTICUT AVE., BRIDGEPORT 1, CONN.
A product of The Locke Steel Chain Co.

For more details circle NED-761 E1 on enclosed inquiry slip

ANOTHER WASSELL PRODUCT



HOW TO KNOW IT ALL

Versatile Produc-Trol can give immediate and complete information on almost every phase of production. No recourse to files is needed; with Produc-Trol all the factors of efficient production are scheduled before your eyes — you have the right answer every time.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

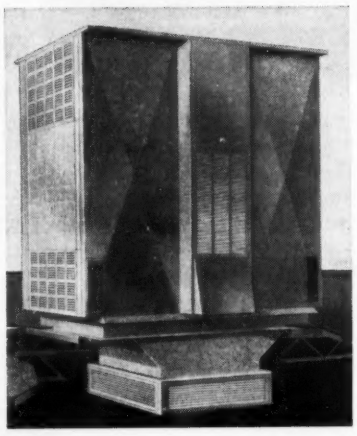
For more details circle NED-762 E1 on enclosed inquiry slip

DRUMMED MATERIAL STACKER is palletless handling system

This Tran-O-Stak system uses a clean cylindrical interior and discharge through dished or cone bottom to handle any flowable material including liquids, semiliquids, powders, crystals, and bulk materials. Available in four, five, and six drum capacities, it has 42-in. diameter and is 50 to 68 in. high. Units are transported safely because they lock on forks of power or hand fork trucks. They can nest on top of one another for stacking. Special drum liner, lining, or coating is fully protected. If required, a mixer or agitating device can be mounted on the Tran-O-Stak. • **Advance Boiler & Tank Co.**, Tran-O-Stak Div., 1711 S. Carferry Dr., Milwaukee, Wis.

For more details circle NED-763 E1 on enclosed inquiry slip

ROOF-TOP HEATER & VENTILATOR delivers 7½ or 10 tons of cooling or 204,000 to 340,000 Btu of heat



Roof-mounted heating, ventilating, and air conditioning unit combines two Landmark units into one flexible package which delivers either 7½ or 10 tons of cooling, or from 204,000 to 340,000 Btu of heat. Temperature in any season can be controlled by a single thermostat, or optionally by two thermostats, each for a separate zone. Conditioned air can be ducted or distributed through a special diffusing head projecting well below ceiling surface.

Return air enters the center of the diffusing head into a damper chamber with controlled motorized dampers. Up to 100 per cent outside air for free cooling is obtainable. Hammock-type or permanent washable-type air filter has 13.7 sq ft of filter area. Galvanized steel, enamel-finished cabinet is weatherproof and lined with 2-in. Fiberglas. Remote compressor-condenser unit reduces load concentration of system. • **Lennox Industries, Inc.**, 200 S. 12th Ave., Marshalltown, Iowa.

For more details circle NED-764 E1 on enclosed inquiry slip

TURN NEW PROFITS with WASSELL WORK ORGANIZERS

Wassell revolving files bring the work to the clerk:

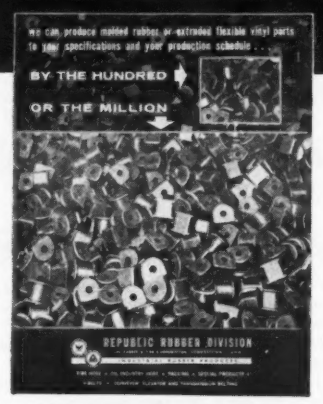
- Turn walking hours into working hours
- Save up to 50% of filing time
- Increase accuracy, efficiency and clerk morale

And another big saving: Wassell Work Organizer revolving files *save up to 40% in floor space.* Send for your *free* literature on Work Organizers for the Sixties.

WASSELL ORGANIZATION INC.
WESTPORT, CONNECTICUT

For more details circle NED-765 E1 on enclosed inquiry slip

Send for this folder on RUBBER AND PLASTIC PARTS

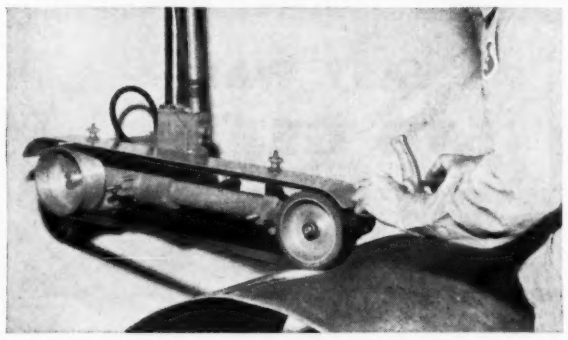


If it can be molded from solid rubber or extruded from flexible vinyl plastic, Republic Rubber can do the job. This folder shows how and why. Send for a copy today.

FREE! NO OBLIGATION

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-766 E1 on enclosed inquiry slip



UNMATCHED IN ITS ADAPTABILITY

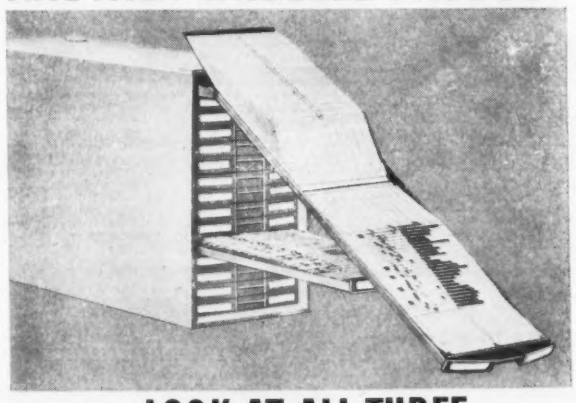
The effortless ease with which a weld seam is removed by the G & P 6-72 Belt Unit is just an example of this tool's adaptability. Whether suspended or on a stand there is almost constant work in any shop for this handy machine. It is simple in design, large in capacity, has unusual mobility and can be used for machine or off-hand finishing. Write for Price List and Bulletin No. 104.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION

2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

For more details circle NED-767 E1 on enclosed inquiry slip

ANOTHER WASSELL PRODUCT



LOOK AT ALL THREE

You'll find these exclusive advantages in Wassell Visible Sig-Na-Lok:

- Superior accuracy because signals lock in place — won't cause mistakes.
- Quicker alphabetical changes — because pockets **snap** out, **snap** in.
- Longer pocket life because pockets are bound full width — never tear.

Wassell Visible Sig-Na-Lok streamlines your records on inventories, maintenance schedules, personnel.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

For more details circle NED-768 E1 on enclosed inquiry slip

A new COMPACT airless spraying outfit

...an "extra" man for odd jobs around the shop

The new compact Binks Airless Spraying outfit is small enough to carry anywhere in the plant . . . large enough for a variety of maintenance jobs. Maximum spray coverage with minimum overspray cuts materials costs.

To get an "extra" maintenance man for your plant . . . see your Binks distributor today. Or, write for full details. Ask for Bulletin A98-11.

Binks Manufacturing Company, 3118-B Carroll Ave., Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES · SEE YOUR CLASSIFIED DIRECTORY

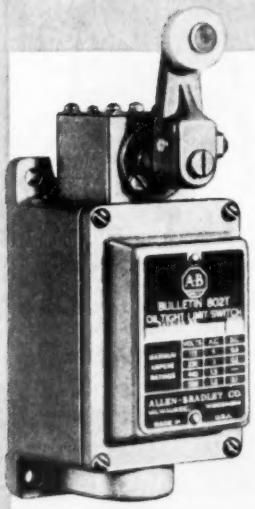
1168

Binks Everything for spray painting

For more details circle NED-769 E1 on enclosed inquiry slip

Here is something really NEW!

A-B QUALITY



Bulletin 802T TIME DELAY Limit Switch

This new limit switch provides a delay that is adjustable from one to fifteen seconds from the time the lever is operated until the switch opens or closes. The switch is no more difficult to install than a limit switch without the time delay feature.

ADJUSTABLE FROM 1 to 15 SECONDS

Bulletin 800T TIME DELAY Push Button

Ideal for applications where a delay of only a few seconds is desired, usually after a "stop" button is pushed and where the repetitive accuracy of the Allen-Bradley Bulletin 849 time delay relay is not required.

Both limit switch and push button have single pole, double break contacts—either normally open or normally closed.

More information on these two new time delay units can be had for the asking!

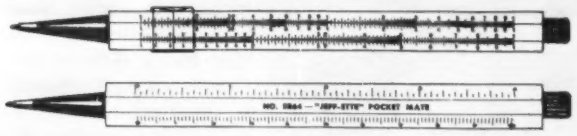
Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL

For more details circle NED-770 E1 on enclosed inquiry slip

SLIDE RULE-PENCIL
rule has A, B, C, and D scales

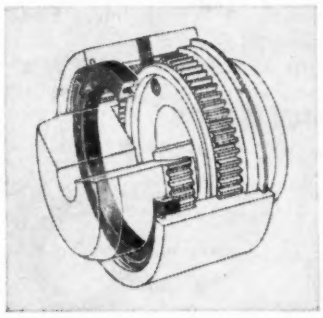
Multiplication, division, square root, and square calculations are performed with the Jeff-Ette combination slide rule and mechanical drawing pencil. The slide



rule has A, B, C, and D scales on its face, and its sides incorporate a 4-in. drawing scale divided into 1/32-in. increments and a millimeter rule up to 10 centimeters. Size is 6 x 7/16 x 3/8 in. It has a spring pocket clip and, with a leatherette sheath, sells for $3.95. • **Alvin & Co.,** Palisado Avenue, Windsor, Conn.

For more details circle NED-771 E1 on enclosed inquiry slip

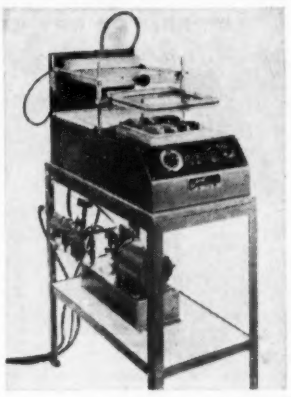
FLEXIBLE COUPLING SEAL
retains lubricant if misaligned



Lubrication seal for entire line of Sier-Bath flexible gear couplings consists of two separate heat treated steel washers bonded together, one inside the other, by means of a flexible hinge of Buna N. The inner washer provides a press fit on the coupling hub and the outer washer snugly fits in the seal cavity cut into the coupling sleeve. Regardless of relative motion of the hub in the sleeve, lubrication is sealed in at 1½-degree misalignment at speeds in excess of 5000 rpm. Washers also prevent damage by hub teeth during momentary or prolonged shaft end thrust. • **Sier-Bath Gear & Pump Co.,** Flexible Coupling Div., 9242 Hudson Blvd., North Bergen, N. J.

For more details circle NED-772 E1 on enclosed inquiry slip

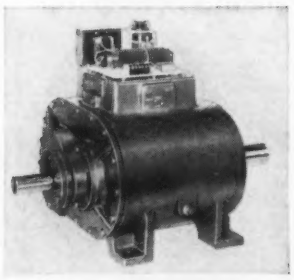
THERMOFORMING MACHINE
for short run packaging uses



Blister forming, skin packaging, and drape and vacuum forming are performed by the Comet, Jr. thermoforming machine, a low cost unit for sample runs, cost estimating, product designing, and material evaluation. Heating, draping, seal-off, and application of vacuum are automatic. Mold area is 10 x 10 in., sheet size is 11 x 11 in. with 0.001 to 0.125-in. thickness, drape stroke is 4 in., and heater area is 12 x 12 in. Operation is on 80-psi plant air and 110 v. Controls, vacuum system, vacuum regulator, vacuum filter, stand, and air regulator, filter, and lubricator are furnished. • **Comet Industries, Inc.,** 9865 Franklin Ave., Franklin Park, Ill.

For more details circle NED-773 E1 on enclosed inquiry slip

HEAVY-DUTY TRANSMISSION
two, three, or four speed changes



Electromagnetic clutch that provides speed changes and reversing under power without interrupting the power source is a feature of Model 18700-EC heavy-duty transmission. Clutch capacity is 3060 lb-ft (running). Transmission is offered with two, three, or four speed changes and a maximum reduction of 10:1. Speed changes are controlled manually or automatically by electric switches, tape, cams, or other remote controls. Designed for use on machine tools, processing, and other equipment, it can be horizontally or vertically mounted. It is 34 in. long to ends of shafts, 22 in. wide and 20½ in. high. Input and output shaft diameters are 2.125 and 3 in., respectively. Weight is 600 lb. • **Western Mfg. Co.,** 3400 Scotten Ave., Detroit 10, Mich.

For more details circle NED-774 E1 on enclosed inquiry slip

find cracks, leaks, defects with push-button ease!

ZYGLO®

BLACK LIGHT portable fluorescent penetrant inspection kit by **MAGNAFLUX**

IDEAL FOR
- Finding oil leaks
- Maintenance inspection
- Testing cast or machined parts during manufacture
- Tool inspection

FIRE SAFE: All materials have high flash-point. Spray cans eliminate waste, spillage, contamination.

Take the guesswork out of testing! ZYGLO, the *most sensitive* fluorescent inspection method available, makes every crack glow. Use it anywhere —in the shop, in the field.

Complete ZYGLO KIT shown above including 100 W. BLACK LIGHT **$125.00** F.O.B. CHICAGO

Order Today or Write for Data. New illustrated bulletin gives complete facts on ZYGLO Kit and replacement materials.

MAGNAFLUX CORPORATION
A Subsidiary of General Mills
7349 West Ainslie Ave.
Chicago 31, Illinois

For more details circle NED-775 E1 on enclosed inquiry slip

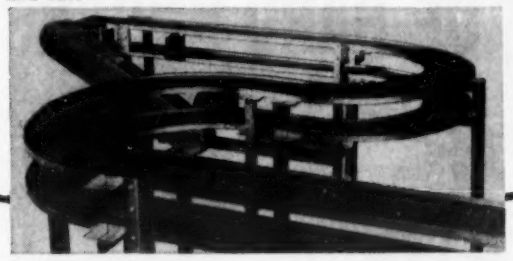
NOW... CONVEY THROUGH 180° WITHOUT

TURNTABLES . . .
DEAD PLATE TRANSFERS . . .
SPECIAL TRANSFER BELTS . . .

with an

ASHWORTH OMNIFLEX BELT
(Patented)

OMNIFLEX was developed by Ashworth Bros., Inc., to meet the needs of industry for continuous conveying of products or raw materials before, after and during processing. This flexible, flat wire belt will reduce handling costs and speed up processing. Open mesh provides circulation, quick drainage, light weight and ease of sanitation. Available in galvanized low carbon steel, bright high carbon steel or Stainless types 302 and 316.



Literature Available, write:
ASHWORTH BROS., INC.
Winchester, Virginia
Sales Offices in Principal Cities

For more details circle NED-776 E1 on enclosed inquiry slip

...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

Get more facts FREE

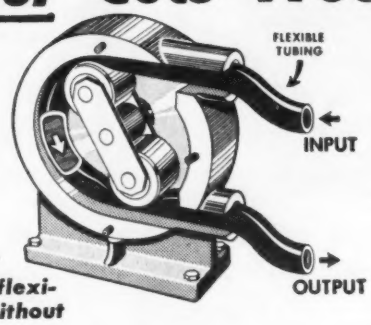
Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-890.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
1901 North Buffum, Milwaukee, Wis.

For more details circle NED-777 E1 on enclosed inquiry slip

The Pump That *Never* Gets Wet



Fluids flow through a flexible tube without contacting the pump.

CAPACITIES UP TO 185 G.P.H.

RANDOLPH PUMP

For Literature and prices, write the RANDOLPH CO. 1018 Rosine Street, Houston 19, Texas JAckson 6-2091

For more details circle NED-778 E1 on enclosed inquiry slip

TELEVISION-RADAR DISPLAY viewed by only one person at a time

High resolution 7-in. long cathode ray tube of the Private Eye miniature radar and television display device has a 0.60-in. diameter screen which is observed through a magnifying eyepiece. It is equivalent in function to a 6-in. diameter screen observed from a distance of 10 in. Device is viewed by only one person at a time and is effective in ambient light bright enough to wash out displays on open screens. Uses include radar installations in aircraft and boats where space requirements and equipment costs are critical, outdoor television installations requiring a monitor unaffected by daylight, construction projects, and three-dimensional binocular remote viewing under hazardous circumstances. Resolution is 900 lines per diameter. The tube is electrostatically focused. • **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

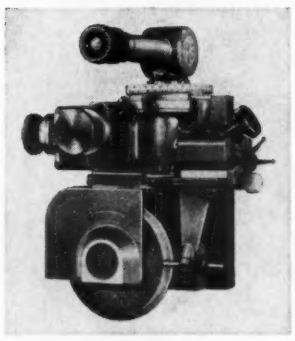
For more details circle NED-780 E1 on enclosed inquiry slip

EQUIPMENT THERMOMETERS ranges cover −20° to 450° F

Vapor tension-actuated Series 8000 equipment thermometers will serve as remote temperature indicators for refrigerators, coolers, cooking vats, ovens, incubators, engine, air ducts, and temperature operated valves. These center-back-connected units are available optionally with front or rear-adjusted zero set and in 2, 2½, and 3½-in. dial sizes. They have nonferrous Bourdon tubes and a newly-designed movement composed of corrosion resistant materials. Ten dial calibrations range from −20 to 65° F up to 200 to 450° F. •**American Machine & Metals, Inc.**, U. S. Gauge Div., Sellersville, Pa.

For more details circle NED-781 E1 on enclosed inquiry slip

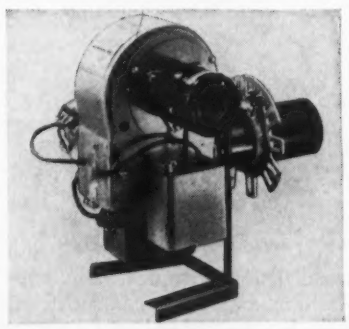
GRINDING WHEEL DRESSER mounts on any grinding machine



Built-in 10X microscope with a radius reticle and a 6-minute vernier for accurately setting the diamond are incorporated in the Optidress optical attachment for precise dressing of grinding wheels. It can be permanently mounted on practically any standard surface or tool and cutter grinding machine. English-made dresser requires no templates or set-up between grinding and redressing, as it remains on the machine. Radius and two tangent angles may be dressed in a continuous motion. Micrometer cross slides permit dressing of any combination of radii and angles into an intricate form on the wheel. • **Parker-Hartford Corp.**, Optical Div., 650 Franklin Ave., Hartford, Conn.

For more details circle NED-782 E1 on enclosed inquiry slip

GAS BURNER CONTROL SYSTEM minimizes pilot outage problem



Ventronic electric gas burner control system is installed in 75,000 to 400,000-Btu horizontal and down-draft furnaces and boilers, and industrial incinerators to minimize the problem of pilot outage. Pilot is ignited by a 6000-v spark after a 1-min purge period, heating a thermocouple generator to provide sufficient power (after 35 sec) to automatically open the main gas valve. Electrode operates during the entire burning cycle to insure pilot re-ignition. Power failure shuts down the entire unit, and power restoration again initiates the purge period. • **Barber Mfg. Co.**, 1052 E. 134th St., Cleveland 10, Ohio.

For more details circle NED-783 E1 on enclosed inquiry slip

Generals GRADUATE WITH TOP HONORS FROM THE SCHOOL OF HARD KNOCKS!

Here's what one customer writes:

"If you can see the abuse your machines take from completely unskilled operators, dragged from building to building, up and down stairs, banged from wall to wall and into beds and lockers, and still continue to function well and with almost no maintenance, you know you have a fine product."

BEFORE YOU BUY, SEE GENERAL! There's a GENERAL in every price and size range.

General FLOORCRAFT, INC.
3630-50 Rombouts Ave., Bronx 66, N.Y. Established 1930
World's Most Complete Line of Industrial and Household Floor Maintenance Machines and Vacuums
All Sizes for All Types of Floors — Made by Floor Machine Specialists

Generals are Feature-Filled! MAIL COUPON for complete details

☐ Have Distributor call on us. NE-5
☐ Send complete information, literature and prices.
☐ Floor and Rug Cleaning Machines ☐ Vacuums
Company_____
Street_____
City_____ State_____
My Name_____ Title_____

For more details circle NED-779 E1 on enclosed inquiry slip

Alnor® DEW-POINTER

the best way to make a fast, accurate determination of the dew point of gas atmospheres.

- Check the carbon potential in heat treating furnaces almost instantly at any time during the process.
- Registers the dew point in air used for drying operations.
- Simple to operate, fast, precise

Complete information in Dewpointer bulletin No. 2051

Alnor INSTRUMENTS

ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-784 E1 on enclosed inquiry slip

...Pays for itself!

NO MATERIAL LOSS

Cuts up to 2,000 tubes per hour!

CONTINENTAL PIPE & TUBE ROTARY CUT-OFF MACHINE

It zips right through tubes from ⅜" to 1¼" O.D., from light gauge to 16-gauge wall thicknesses. Adjustable table with Tri-Roller Assemblies and Manual Stock Loader. Also Cut-Off Machines for pipes and tubes up to 12" diameter, air or hand-operated.

MACHINE RENTAL PLAN

Continental machine co. SINCE 1919
2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle NED-785 E1 on enclosed inquiry slip

M&M AIR FLUFF PAPER SHREDDER

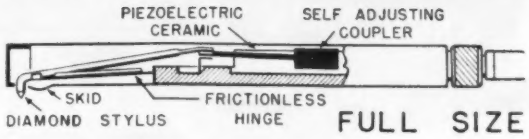
101

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of ⅛", 3/16", ¼", or ⅜" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

MITTS & MERRILL
1000 SO. WATER ST. • SAGINAW, MICHIGAN

For more details circle NED-786 E1 on enclosed inquiry slip

SURFACE FINISH MEASUREMENT



PICKUP DESIGN

The heart of any surface finish measurement instrument is the pickup. This component determines the performance and versatility of the gage. The above design illustrates the most advanced pickup available. In many respects similar to a high fidelity phonograph cartridge, it employs a piezo-electric ceramic element, which is unaffected by temperature, humidity and other environmental factors. The flexing of this ceramic converts the variations in surface finish height into an electrical signal.

The self adjusting viscous coupling assures operation from a true neutral point and prevents excessive stylus pressure without critical leveling of the pickup. This feature also reduces the number of skids required. The inherent simplicity of the pickup design reduces maintenance as well as the initial cost of the equipment. The small size of the basic pickup eliminates the need for many special types or adapters. Other pickups are available which permit measurements on very small or narrow areas, flanges, thread flanks, gear teeth, small internal diameters and "O" ring grooves.

All other Roughness Meter items, amplifier, mechanical trace and skidless trace, make use of similar advanced designs.

Write for information or a demonstration.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

▲ For more details circle NED-787 E1 on enclosed inquiry slip ▲

FOR ACCURATE PRESSURE CONTROL ON A WIDE VARIETY OF APPLICATIONS

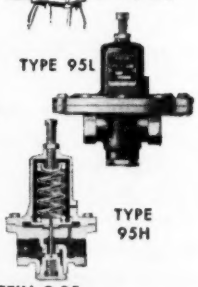
FISHER TYPE 95

A SERIES OF LARGE CAPACITY SELF-CONTAINED REGULATORS
For Steam, Air, Gas, Oil, Water and other Fluids

Low pressure, Type 95L is designed for outlet pressures from 2 to 30 psi; high pressure Type 95H for outlet pressures up to 150 psi. Small size makes this regulator particularly adaptable to installations having space limitations.

Available with Neoprene diaphragm and seat for temperatures to 150°F. For temperatures above 150°F. stainless steel trim is used. Available in sizes ¼" thru 1".

Quickly installed, easily accessible for parts replacement without removing from line.



FOR FULL DETAILS, REQUEST BULLETIN C-95

FISHER Controls

FISHER GOVERNOR COMPANY
Marshalltown, Iowa/Woodstock, Ontario

▲ For more details circle NED-788 E1 on enclosed inquiry slip ▲

TWELVE EASY WAYS TO LIFT FROM 3 TO 100 TONS . . .
USE DUFF-NORTON HYDRAULIC JACKS

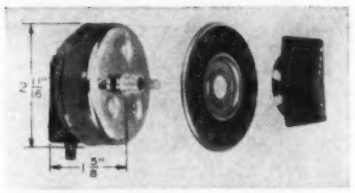
Designed for ease of operation this rugged, dependable line of Duff-Norton hydraulic jacks gives you rapid rise with minimum effort. Twelve models in 10 different capacities ranging from 3 to 100 tons meet the lifting requirements of all types of industry.

Duff-Norton Hy-Power Hydraulic Jacks are stocked by your distributor. For quick delivery call him the next time you need a jack, or write for a copy of Bulletin AD-16-n to obtain complete details and specifications.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-789 E1 on enclosed inquiry slip ▲

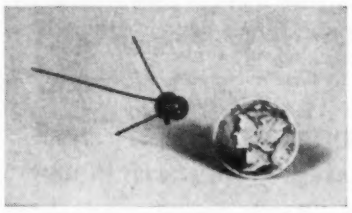
BELL SIGNAL TIME SWITCHES
in 60 sec to 12-hr timing ranges



Optional "hold" feature of Series 45,-000 and 46,000 Mark-Time bell time switches affords two-in-one utility. By turning knob to left, device becomes a snap-action on-off switch. By turning knob to right, it provides a timing function. Units have up to double-pole double-throw circuit capacity and utilize a UL-approved 15-amp, 125-v ac switch. Bell is optional. Stationary male terminals take push-on connectors. Models are available in timing ranges from 60 sec to 12 hr. • **M. H. Rhodes, Inc.**, 30 Bartholomew Ave., Hartford 6, Conn.

▲ For more details circle NED-790 E1 on enclosed inquiry slip ▲

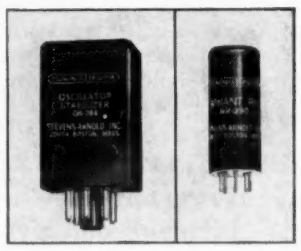
LIGHT-ACTUATED SWITCH
output is determined by load



Impedance of over 10 megohms when "off" and impedance under 10 ohms when triggered by "on" light are characteristics of the Photran photocell. Actually an efficient light-actuated PNPN silicon switch, it can be used in many types of electro-optical control systems. Its output is determined primarily by the load and is independent of light input at all intensities above the triggering level. The 0.185 x 0.200-in. unit delivers up to 300 ma load current at up to 200 v with an efficiency over 98 per cent. Output is often enough for direct actuation of a load without relays or amplifier elements. Applications include counting, sorting, power control, limit switching, programming, and optical logic control. • **Solid State Products, Inc.**, 1 Pingree St., Salem, Mass.

▲ For more details circle NED-791 E1 on enclosed inquiry slip ▲

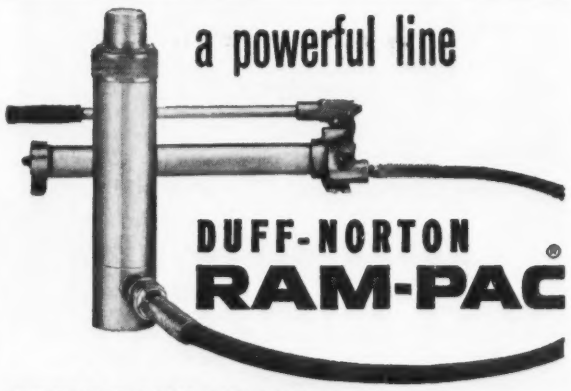
RESONANT RELAYS
for calling or remote control use



Available in frequencies from 150 to 1000 cps, tuning-fork resonant relays are miniature plug-in components for use in the receiving end of selective calling or remote control systems. They afford individual control of up to thousands of functions at the receiving end of a cable pair or radio channel. Tolerances of ½ cycle and 5 per cent are offered. • **Stevens-Arnold, Inc.**, 7 Elkins St., South Boston 27, Mass.

▲ For more details circle NED-792 E1 on enclosed inquiry slip ▲

a powerful line



DUFF-NORTON RAM-PAC®

HYDRAULIC RAMS AND PUMPS
12 RAMS, 5 PUMPS, CAPACITIES 10 TO 100 TONS

The complete Duff-Norton Ram-Pac line gives you the power source you want—where you want it and with little effort. The 12 rams may be used with 5 hand or power pumps to apply from 10 to 100 tons of force in any direction in either portable or permanent applications. For information on this line of rams, pumps, attachment units, accessories and fittings ask your distributor or write for Bulletin AD-90-N.

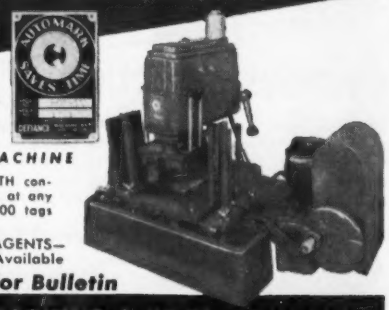
DUFF-NORTON JACKS
DUFF-NORTON COMPANY
Four Gateway Center, Pittsburgh 22, Pa.

▲ For more details circle NED-793 E1 on enclosed inquiry slip ▲

CUT PRODUCTION COSTS!
MARK
NAME PLATES
5 TIMES FASTER

MODEL EMT-2
ELECTRIC TAG TYPEWRITER
A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

—WITH—
Automark®
ELECTRIC TAG MARKING MACHINES



MODEL SRST-2
HI-SPEED
TAG MARKING MACHINE
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!
MANUFACTURER'S AGENTS—Some Territory Still Available
Send Now for Bulletin

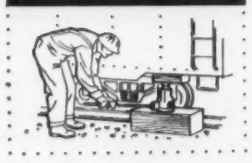
DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

▲ For more details circle NED-794 E1 on enclosed inquiry slip ▲

▲ For more details circle NED-795 E1 on enclosed inquiry slip ▲

200,000 Pounds Of Lifting Power In a 98 Pound Package

The 100 ton capacity Duff-Norton Aluminum Screw Jack weighs only 98 pounds. It is easier to handle and spot than any other type of jack of the same capacity.



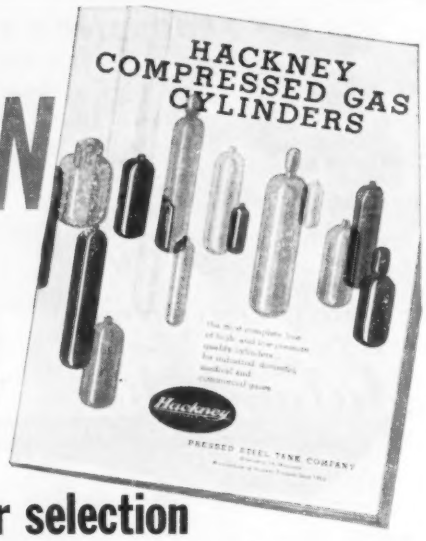
Maintenance is virtually eliminated by the rugged construction—aluminum alloy housing and base—heat-treated steel lifting screw—sealed-in lifetime lubrication. These jacks withstand hard usage in any weather. It is impossible for them to creep—will support load indefinitely. They can be used in any position—have no fluid to leak—no air to lock.

Duff-Norton Screw Jacks are available in 25, 35, 50 and 100 ton capacities in aluminum—in 15, 25, 35 and 50 ton capacities in malleable iron. For details ask your distributor or write for Bulletin AD-12N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-796 E1 on enclosed inquiry slip ▲

NEW handy guide to cylinder selection



Easy to use, this new Hackney catalog is your complete reference guide to accurate compressed gas cylinder selection. Gives complete data on the wide variety of Hackney cylinders—industry's broadest line. Write for your free copy today.

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 S. 66th St., Milwaukee 14, Wis.
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

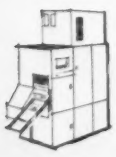
For more details circle NED-797 E1 on enclosed inquiry slip

XEROGRAPHY
for engineering-drawing reproduction

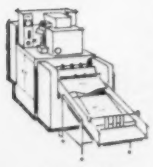
Top-quality prints on ordinary paper . . . reduced or size for size . . . at a fraction of your present cost

Clean, fast, dry, electrostatic . . . *xerography* has revolutionized engineering-drawing reproduction! Savings from $20,000 to *$500,000* have been reported by firms using Haloid Xerox copying equipment, available everywhere at modest monthly rentals.

For high-quality offset paper masters: XeroX® Model 1218 copying equipment. Sharp, inexpensive paper masters are made from original drawings of A to D size, reduced to 12" x 18" masters for quick run-off.



Volume reproduction from original drawings or roll microfilm: Fully automatic, push-button operation with XeroX Copyflo® continuous printers. Produce dry prints (on ordinary paper, vellum, or offset paper masters up to 12" wide) at the rate of 20 linear feet a minute; will enlarge, reduce or copy size-to-size from originals or roll microfilm (16 or 35mm).



Copyflo 24C

Reproduction from card-mounted microfilm: The XeroX Copyflo 24C (for high-volume users) and the new low-cost Copyflo 1824 (for low-volume users) automatically reproduce from 35mm card-mounted microfilm. Produce sharp, dry prints on ordinary paper, vellum, or offset paper masters.

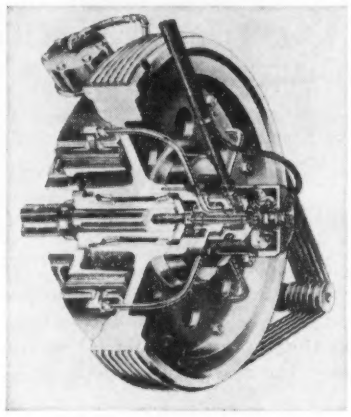
Copyflo 1824

GET ALL THE FACTS! WRITE:
Haloid Xerox Inc., Dept. 61-210X, Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd.

HALOID XEROX®

For more details circle NED-798 E1 on enclosed inquiry slip

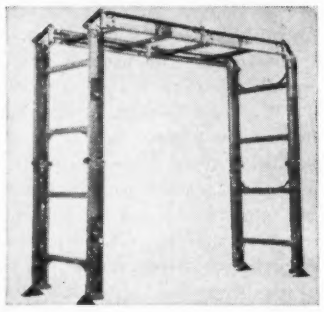
AIR CLUTCH & BRAKE
miniature unit for bench presses



A 6-in. diameter drum-type air clutch and a 4-in. diameter self-energizing brake comprise this FSPA miniature clutch and brake package for low-tonnage bench presses. It is designed for high speed cyclic machines requiring accurate starts and stops. Clutch portion can be used in pulley-mounted applications. Air-actuated clutch has a 360-degree friction surface, responds instantly to pushbutton control, and automatically adjusts for wear. Spring-engaged, air-released brake automatically engages in case of electrical or compressed air failure. Package eliminates backlash. • **Fawick Corp.**, Fawick Airflex Div., 9919 Clinton Rd., Cleveland 11, Ohio.

For more details circle NED-799 E1 on enclosed inquiry slip

INDUSTRIAL LADDER
converts to step, wall, scaffold unit



This Norseman convertible industrial ladder converts from a folded package measuring 10 x 14 x 25 in. into a straight wall, step, or scaffold ladder for a variety of uses. Each starter section includes demountable feet with support brackets for scaffolding or stepladder positions and has different angle applications. Unit folds into 2-ft sections with each section supported by steel dual hinges which lock into position by steel pins. Sections are extruded magnesium with double bridge-supported rungs. Add-on 2-ft sections are available to increase the lengths of the 8-ft U-4 and 12-ft U-6 starter ladders priced at $39.95 and $59.95, respectively. • **Norseman, Inc.**, 2916 Fourth Ave. S., Minneapolis 8, Minn.

For more details circle NED-800 E1 on enclosed inquiry slip

INDUSTRIAL CONTROL SYSTEM
scans up to 300 instruments at intervals and gives settings

Applications calling for frequent sampling and interpretation of data in the processing and manufacturing industries can be served by the 1710 Series industrial

control system. It scans up to 300 instruments at regularly timed intervals and provides instructions for adjustment of control settings. It also performs the calculations necessary to build a mathematical model or description of a process.

In manufacturing quality control, system is used in analysis and recording of the final test of such diverse items as transistors and refrigerators coming off an assembly line. Every unit can be automatically inspected, replacing random checks.

The 1710 Series is composed of a 1711 data converter (right) which translates instrument reading into computer language, and a solid state 1620 data processing system (center). Instructions for adjusting control settings or information indicating flaws in manufacturing operations are read out in the form of punched paper tape (left) or automatically printed out in the console typewriter (center). • **International Business Machines Corp.**, Data Processing Div., 112 E. Post Rd., White Plains, N. Y.

For more details circle NED-801 E1 on enclosed inquiry slip

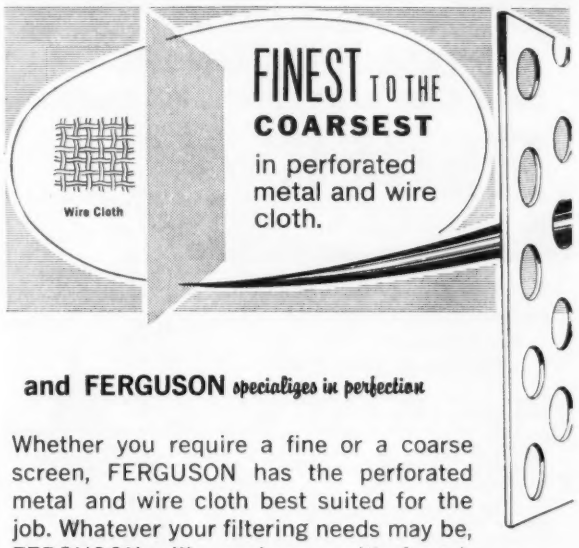
HERE'S HOW TO
SAVE TIME • MONEY and TROUBLE
on
Industrial Rubber
- **COMPOUNDING**
- **MOLDING**

If you fabricate with rubber or silicone rubber parts, or need assistance in development of special rubber compounds, investigate the advantages of using the specialized rubber compounding and molding service made available by the Colonial Rubber Company.

The full story of our long experience in industrial rubber development and production, and full details on our research laboratories, die-making facilities and rubber production plant is told in our 16-page brochure. Write for it today and read how Colonial is able to save time, money and trouble on rubber parts development and production. 1968

COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-802 E1 on enclosed inquiry slip

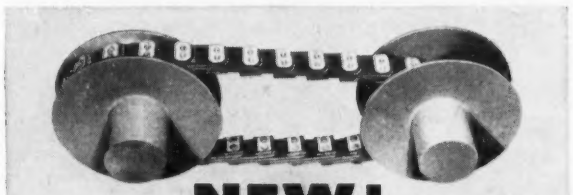


and FERGUSON *specializes in perfection*

Whether you require a fine or a coarse screen, FERGUSON has the perforated metal and wire cloth best suited for the job. Whatever your filtering needs may be, FERGUSON will supply you with Centrifugal Screens, Backing Wire and custom built Filter Leaves.

FERGUSON PERFORATING & WIRE CO.
130-140 Ernest Street Providence 5, Rhode Island
WRITE FOR OUR CATALOG

For more details circle NED-803 E1 on enclosed inquiry slip



NEW!
MANHEIM VARIABLE SPEED BELT

Now Outdates Wood Block and Variable Speed V-Belts

MVS Belt replaces enclosed drive belts without disassembly. Its patented design sets a new standard in V-to-V drives because it is adjustable and is installed in minutes instead of hours. Uniform thickness and width guarantee constant power delivery with no cross-sectional distortion. Available in 26 widths from 1½" thru 5".

Write Today For Complete Information

MVS

MANHEIM
MANUFACTURING & BELTING COMPANY
Manheim 4, Penna.

©M. M. & B. Co. 1958

For more details circle NED-804 E1 on enclosed inquiry slip

Eastern MIXERS

Mix fluids quickly... thoroughly

To meet a wide variety of process requirements, Eastern offers a complete line from lightweight portables to heavy duty, fixed mounted, propeller and turbine mixers. Each type is available with choice of standard speeds, motor enclosures, mountings, and materials of construction.

PORTABLE MIXERS with ratings 1/20 to 3 H. P. are described in Bulletin 530.

Handle the extra heavy-duty jobs in big tanks. Sizes ¼ to 30 H. P. Send for Bulletin 620.

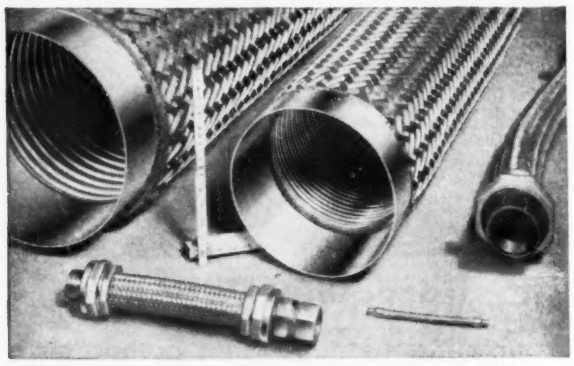
Designed for heavy-duty applications requiring agitators from ¼ to 10 H.P. Send for Bulletin 620.

Range of ¼ to 40 H. P. solves many special mixing problems. Send for Bulletin 1210.

EASTERN INDUSTRIES, INC.

Mixer Division, Dept. N, Norwalk, Connecticut

For more details circle NED-805 E1 on enclosed inquiry slip



BIG or SMALL—Anaconda has flexible tubing answers for tough problems

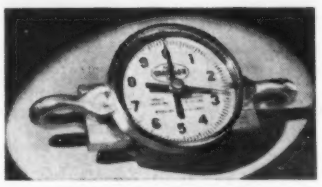
Anaconda Metal Hose designed and manufactured the big 14" and 10" I.D. stainless steel flexible assemblies shown above, for transfer of liquid oxygen. We've also made 16½', 8" diameter, stainless flexible tubing assemblies for LOX in missile ground handling equipment. From these assemblies down to the tiny ⅛" I.D. Vibration Eliminator, in the foreground above, the variety of flexible hose assemblies we can make — in size, material and design—is almost infinite.

SALES ENGINEERING CONSULTING SERVICES. For on-the-job services that follow through from original design to finished product, write: Anaconda Metal Hose, P.O. Box 791, Waterbury 20, Conn. 60132L

ANACONDA® METAL HOSE

For more details circle NED-806 E1 on enclosed inquiry slip

TRACTION DYNAMOMETER
has 500 to 20,000-lb ranges



Measuring of static and dynamic loads in tension, compression, weight, torque, and traction are applications for the Model TD traction dynamometer. Accurate within 1 per cent of capacity, it is offered in ranges of 500 to 20,000 lb. Instrument is unharmed by suddenly applied or released loads. It is protected against climate and dust, has shatterproof glass, is corrosion resistant, and conforms to Federal specifications. Maximum indicating pointer and 10 per cent tare adjustment are provided. Dynamometer is used in wire pulling, adjusting support cables and guy wires, determining draw bar pull, and weighing suspended loads. • **John Chatillon & Sons**, 85 Cliff St., New York 38, N. Y.

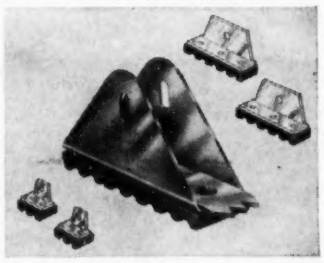
For more details circle NED-808 E1 on enclosed inquiry slip

TORQUE TOOLS
line consists of 100 stock models

Over 100 different stock models of screwdrivers and wrenches comprise a new line of torque tools. The Torque Screwdriver Kit shown provides two micrometer adjustable torque screwdrivers, one with a 4 to 100 oz-in. range, the other with a 2 to 30 lb-in. range. A complete set of adapters for driving regular hex nuts, socket head screws, regular screws, and Phillips head screws in available with the kit. • **R. N. Hunter Sales Co.**, 9851 Alburtus Ave., Santa Fe Springs, Calif.

For more details circle NED-809 E1 on enclosed inquiry slip

SAFETY LADDER SHOES
for all four legs of stepladders



Extra stepladder safety is provided by fitting all four legs with slip-proof ladder shoes made from aluminum extrusions with heavy rubber soles riveted at three points. Shoe sets are available with the back pair in smaller size for light duty ladders, or with all four shoes in the large size for heavy industrial stepladders. A two-way combination style for extension and single ladders is offered with both a rubber sole and a steel spur to grip on ice, hard ground, and concrete. • **Bauer Mfg. Co.**, Wooster, Ohio.

For more details circle NED-810 E1 on enclosed inquiry slip

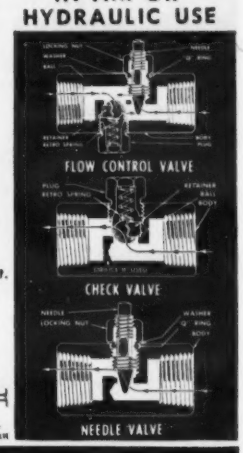
Get Easier, More Accurate Cylinder Speed Control

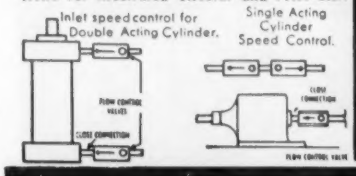
2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

with **Pneu-Trol®** VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

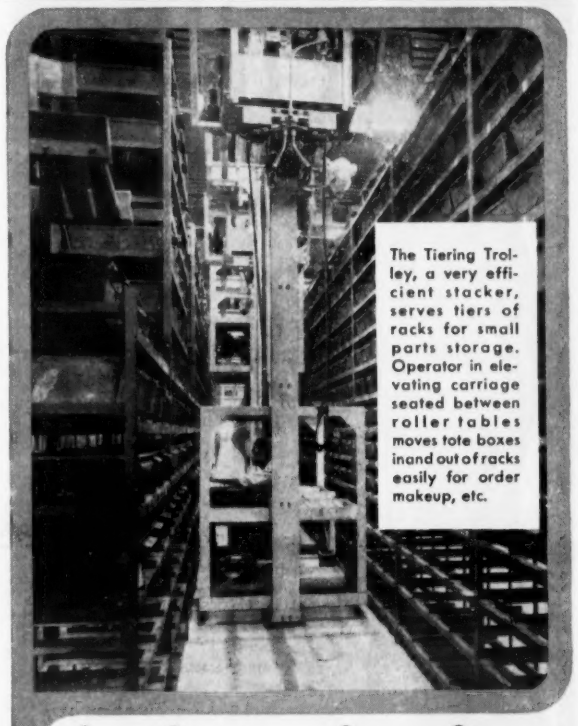
Write for Illustrated Circular and Price List.





AUTOMATION AUTO-PONENTS INC COMPONENTS 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-811 E1 on enclosed inquiry slip



The Tiering Trolley, a very efficient stacker, serves tiers of racks for small parts storage. Operator in elevating carriage seated between roller tables moves tote boxes in and out of racks easily for order makeup, etc.

Cut Costs... Save Space

Louden stacks higher with safety

Operational in the narrowest aisles, Louden Stackers conserve floor space making possible maximum utilization of storage area. And, they provide selective storage for a variety of materials so that each is immediately available.

An important design feature insures safe operation of Louden Stackers at all times. As a load approaches the upper limit, it is closest to the frame from which it is suspended. Thus, where the stacking height becomes hazardous for conventional floor operated equipment, the entire Louden Stacker assembly is at its most stable condition.

When you have material handling requirements, call on Louden, the pioneer of overhead handling. Benefit by Louden's unequaled experience and broad array of service-proven equipment. Most Louden installations pay for themselves in months; some have done so in a matter of weeks.

Write today for PHOTO REPORT NO. 108 . . . a variety of examples of Louden Stackers at work.

Louden MONORAIL & CRANES

THE LOUDEN MACHINERY COMPANY
512 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.

SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

For more details circle NED-812 E1 on enclosed inquiry slip

NEW BALCRANK HY-SPRAY

airless spray equipment

55 Gallon Stationary Unit

5/10 Gallon Portable Unit

HANDLES WATER-BASE *as well as all other* **PAINTS**

You get these many plus features when you use the New Balcrank "HY-SPRAY" Airless Spray Equipment:

- Successfully sprays all types of paint, INCLUDING WATER-BASE
- Faster than all other methods for finishing, refinishing and maintenance
- Cuts cost of materials
- Cuts cost of entire painting operation
- Eliminates expensive booths and exhaust equipment
- 10 different models available, both 5/10 gallon and 55 gallon units
- Many exclusive features, offered only by Balcrank

Balcrank manufactures a complete line of regular air operated paint spray equipment, transfer and material pumps in Carbon Steel, Brass and Stainless Steel. Write or wire today for complete information on "HY-SPRAY" or any Balcrank pump equipment.

BALCRANK inc.

10 Disney Street Dept. NED-1 Cincinnati 9, Ohio

For more details circle NED-807 E1 on enclosed inquiry slip

NEW PORTABLE
PROPELLAIR®
TUBEAXIAL FANS
with FLEXIBLE DUCT

WRITE: PROPELLAIR DIV.
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO

For more details circle NED-813 E1 on enclosed inquiry slip

Seiberling
INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED
FIRMGRIP®
SAFETY GRIP MOULDED INTO FINGERS AND PALM

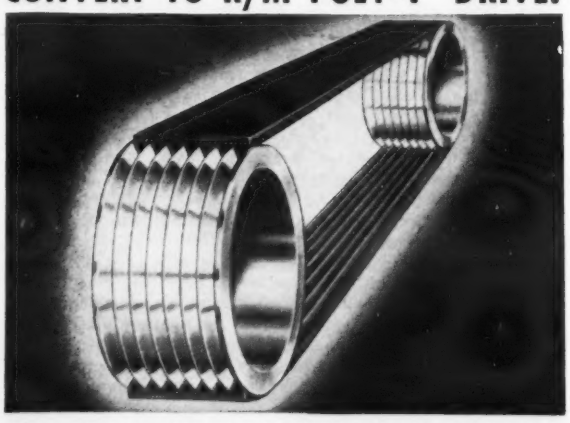
SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER!
Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

For more details circle NED-814 E1 on enclosed inquiry slip

CONVERT TO R/M POLY-V® DRIVE!



NO OTHER DRIVE DELIVERS AS MUCH POWER IN AS LITTLE SPACE!

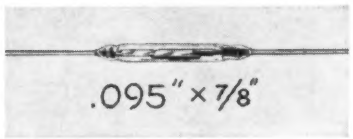
- MORE POWER — LESS SPACE .. with Reliability
- SINGLE UNIT DESIGN
- ELIMINATES BELT "MATCHING" PROBLEMS
- MAINTAINS GROOVE SHAPE
- CONSTANT PITCH AND SPEED RATIOS
- LESS WEAR ON BELT AND SHEAVES
- COOLER, SMOOTHER RUNNING
- COMPLETE CONTACT-PRESSURE
- TWO BELT CROSS SECTIONS MEET EVERY HEAVY DUTY POWER REQUIREMENT

Poly-V is patented Write For Bulletin M141 RM1013

Engineered Rubber Products .. More Use per Dollar
RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

For more details circle NED-815 E1 on enclosed inquiry slip

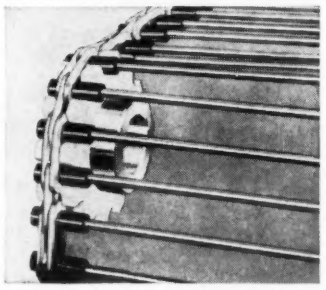
MAGNETIC REED SWITCH
for miniature printed circuits



Offset gap, excellent bounce characteristics, fast snap action, and relatively high contact force are features of the Model MR-400 magnetic reed switch. Its small size makes possible use of miniature relays and cross-points in printed circuit boards or modules based on a 1-in. center. Contact surfaces are a low resistance, fully magnetic alloy of gold, nickel, and iron. External leads can be soldered or welded, or bent and cut for printed circuit use. Glass length of the hermetically sealed switch is 7/8 in., over-all length is 2 3/4 in., and life expectancy is over 3 million operations at maximum rating. Relays, computers, scanners, telephony, proximity switches, interlocks, and counting are among uses. Single unit price is $3. • **Gordos Corp.**, 250 Glenwood Ave., Bloomfield, N. J

For more details circle NED-816 E1 on enclosed inquiry slip

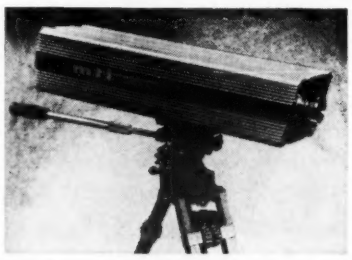
NYLON-TO-NYLON BELTING
for rod conveyor applications



Applicable to food processing, pharmaceutical, chemical, and many other uses, Linklok NB-5 rod type nylon belting meets rigid sanitary specifications. It uses dual nylon sprockets with two equalizing bearing surfaces which engage free-turning nylon-tipped rods held in alignment by a triple link-to-rod construction. Operating speeds up to 850 fpm with perfect alignment are possible. Rods can be steel, stainless steel, or aluminum with a range of coatings for special applications. • **Velten & Pulver, Inc.**, 103rd & Ridgeland, Chicago Ridge, Ill.

For more details circle NED-817 E1 on enclosed inquiry slip

CLOSED-CIRCUIT TELEVISION
designed for low light level use



Special circuitry and the use of transistors and vacuum tubes enable the Orth 1 closed-circuit television system to provide usable pictures with tube illumination down to 0.0001 ft-c. Broadcast quality pictures are obtained with only 1 ft-c. System consists of an image orthicon camera, camera control, and monitoring equipment. Its low light level resolution makes it suitable for underwater viewing, night work, and dark area inspection. Education and training, meetings and conferences, and data handling are possible applications. System is simple in operation and has an electronic zoom lens for enlarging the picture on the monitor screen. • **Maryland Telecommunications, Inc.**, 10 Winters Lane, Baltimore 28, Md.

For more details circle NED-818 E1 on enclosed inquiry slip

ROTARY SPOT PRINTER
for cut sheets and flat products

Electronically operated Model 5627 rotary spot printer is mounted over a galvanized sheet conveyor line just before the piler and beyond the roller leveler when used to imprint cut-to-length galvanized sheets. It also applies trade marks or other imprints on various flat products. Printer is installed without interrupting production, and it will not mar or distort light gage sheets. The 1200-lb unit uses a pump to keep ink free flowing. A push-button control selects spot or continuous printing. Size is 41 x 46 x 37 in. Drum diameter is 18 in. • **Jas. H. Matthews & Co.**, 3942 Forbes Ave., Pittsburgh 13, Pa.

For more details circle NED-819 E1 on enclosed inquiry slip

THOMSON "Snap-In" NYLINERS
—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY
...less to INSTALL
ELIMINATE LUBRICATION!

Additional Benefits:
- CLOSE FIT
- LONGER LIFE
- EASILY INSTALLED
- LESS SERVICING
- SELF-RETAINING
- RESIST CORROSION
- LOW FRICTION
- RESIST POUNDOUT
- NO FRICTION OXIDATION
- DAMP VIBRATION
- OPERATE IN LIQUIDS
- NON-CONTAMINATING
- INSTANTLY REPLACEABLE
- RESIST ABRASION
- MINIMUM SPACE
- SILENT OPERATION
- LIGHTEST WEIGHT
- REDUCED WEAR

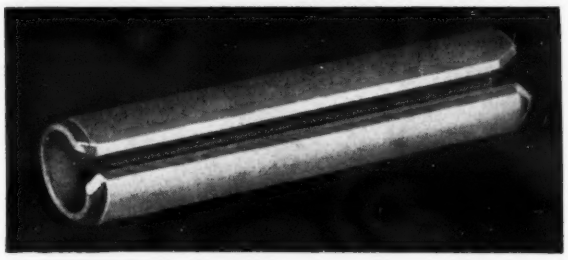
NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also— Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and 60 CASE . . . Hardened & Ground Steel Shafting

For more details circle NED-820 E1 on enclosed inquiry slip



Versatile Rollpin®
simplifies design, speeds production

ROLLPIN can be used in place of taper pins, solid straight pins, set screws, hinge pins, dowels, clevis pins . . . and in some cases as a rivet.

ROLLPIN is a slotted, cylindrical spring pin deliberately oversized in relation to standard production drilled holes . . . compressive forces lock it in place. Reaming or secondary safety operations such as peening are eliminated.

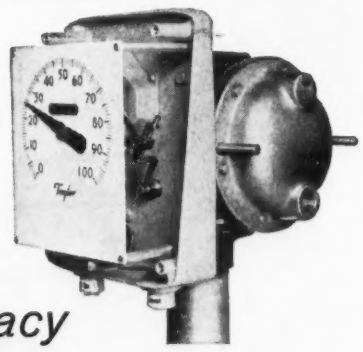
ROLLPIN is easy to install, easy to drive out with a drift pin or punch, yet will "stay put" indefinitely.

ROLLPIN is available for immediate off-the-shelf delivery—comes in sizes from .062" diameter to .500" in carbon steel, corrosion resistant steel or beryllium copper.

For a free bulletin detailing Rollpin applications and installation methods, write to Dept. R53-537.

ROLLPIN®
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle NED-821 E1 on enclosed inquiry slip



For high accuracy flow measurement

Taylor TRANSCOPE® Differential Pressure Transmitter with Barton Meter Body

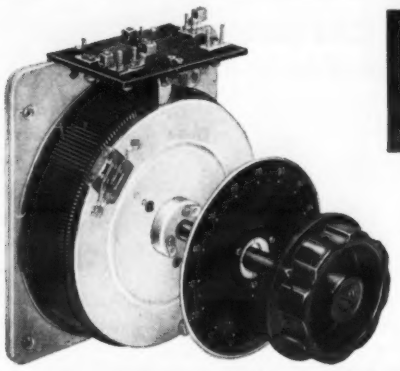
Accurate and trouble-free—the combination of a Taylor 210T DP Transmitter and a Barton Meter Body as the aneroid sensing element. No. 210T is a low-cost, motion-balance pneumatic transmitter; output is accurate within ½% of input signal; threshold sensitivity 0.1%; Indication within ±1% of full scale. 11¾"-long scale can be read up to 35 feet away.

The Barton Meter Body has liquid-filled rupture-proof bellows for built-in overrange protection. Differential ranges from 0-20" water to 50 psi. Safe working pressures from 1000 to 6000 psi. Variety of housing materials.

Write for **Bulletin 98385.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ontario.

Taylor Instruments MEAN ACCURACY FIRST

For more details circle NED-822 E1 on enclosed inquiry slip



Type W30
4.32 KVA

Another NEW Variac®
AUTOTRANSFORMER

Rated between the Types W20 and W50 VARIAC® autotransformers, the new Type W30 series have all of the exclusive features of these popular models, including Patented DURATRAK brush-track for extra-long life and ability to stand momentary overloads up to 1,000 per cent.

Basic Type W30 (illustrated) has a maximum rating of 36 amperes, and a rated current of 30 amperes; line voltage 120 with continuously adjustable output from 0 to 140 volts. Price: $75.00

Other models for 240-volt lines (0 to 280 v. output); cased and uncased units, ganged models, ballbearings, motor drives etc. Three-phase ganged units are rated up to 15.6 Kva.

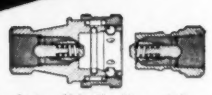
Write for complete Information

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38** 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA** 1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO** In **CANADA:** 99 Floral Parkway, **TORONTO 15**

For more details circle **NED-823 E1** on enclosed inquiry slip

● To connect a Hansen Two-Way Shut-Off Coupling, merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Furnished in brass or steel with female pipe thread connections from 1/8" to 1½" inclusive. Also available in sizes up to 1", in stainless steel.



Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

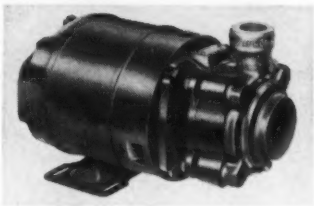
Write for the Hansen Catalog... a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle **NED-824 E1** on enclosed inquiry slip

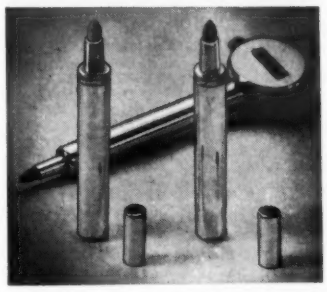
END-SUCTION PUMP
capacities to 400 gpm



Compactness of this close-coupled, end-suction centrifugal pump adapts it for use in air conditioners, cooling towers, milk coolers, and hot water circulators. The packaged unit is easily disassembled without disturbing the suction or discharge piping. Vertical centerline discharge makes pump self-venting. Sizes range from ¾ x 1 in. to 3 x 3 in. with capacities up to 400 gpm and heads to 150 ft. ● **New York Air Brake Co.,** Aurora Pump Div., Loucks Street, Aurora, Ill.

For more details circle **NED-826 E1** on enclosed inquiry slip

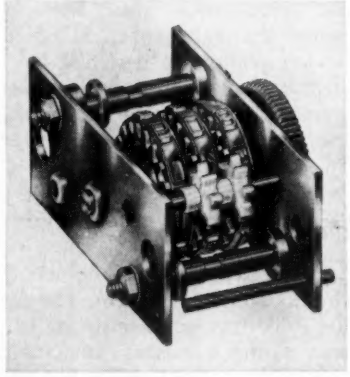
FELT MARKING PENS
white and yellow inks offered



White and yellow inks now complete the range of colors offered in Mark*Counter felt tip pens for inventory control, counting, color-coding, and marking. The new colors are well pigmented, will not clog or dry out, and flow evenly. Other colors available in these disposable pens are black, red, green, blue, and brown. Shown with two standard marking pens is the Mark*Counter, with a counting device which clicks to hold a total of items spotted. ● **VanDeMark, Inc.,** Box 120, St. Clair, Mich.

For more details circle **NED-827 E1** on enclosed inquiry slip

PRINTING COUNTER
add-subtract for servo read-out



Printing speed up to 5000 counts per minute is a feature of this add-subtract printing counter which has a low starting torque of 0.05 oz-in. Designed for servo read-out, the basic counter has three digits, but additional digits or decimal points may be incorporated. Available with it are an automatic indexing mechanism, printing ribbon drives, and a printing solenoid. Standard character height is 3/16 in. and spacing is 9/32 in. ● **Radson Engineering Corp.,** Macon, Ill.

For more details circle **NED-828 E1** on enclosed inquiry slip

new
Versatile
22 x 14 x 5

Stack-n-Nest®
TOTE PAN

This new Lewis Stack-n-Nest tote pan has been designed to work in conjunction with the popular 22 x 14 x 8 size. Pans will interstack and internest. Covers and dollies can also be utilized as shown.

Molded in one-piece of Fiberglass reinforced polyester, these pans stack and nest within their own dimension, without mechanical gadgets. Can't rust, rot, corrode . . . exceptionally strong. Available in 9 sizes. Covers and dollies for several sizes available.

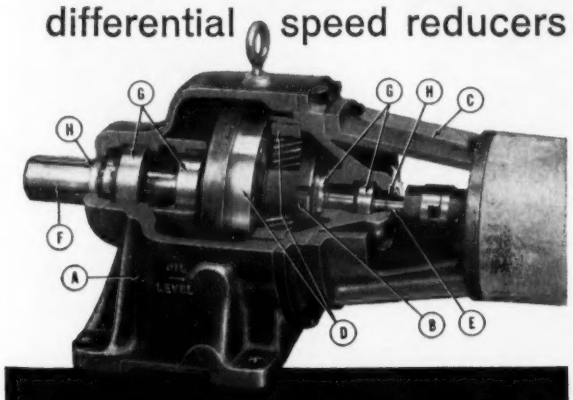
SHIPMENT WITHIN 24 HOURS FROM RECEIPT OF ORDER

Write today for illustrated brochure and prices.

G.B. Lewis COMPANY
405 Montgomery Street, Watertown, Wisconsin

For more details circle **NED-829 E1** on enclosed inquiry slip

Winsmith
horizontal motorized
differential speed reducers



• 7 Models • .12 to 81.51 H. P. • Ratios 1.1:1 to 50,000:1 • Max. Output Torque 50 to 113,000 in. lbs.

A. Cast Iron Housing—for high heat radiation, maximum strength and rigidity.

B. Unified Planetary Element—integral primary and secondary planetary gears mounted in ductile iron cage—for even wear, equalized load, smooth operation.

C. Cast Iron Adapter—takes any standard "C" flange motor. Flexible coupling connects motor to input shaft.

D. Internal Ring Gears—primary and secondary, heat treated alloy steel.

E. One-Piece High Speed Pinion and Shaft—hardened, accurately ground alloy steel with teeth cut integral.

F. Slow Speed Shaft—heat treated, ground alloy steel. Low speed gear web of ductile iron.

G. Tapered Roller Bearings—opposed pairs support radial load, take thrust of input and output shafts.

H. Positive Oil Seals—chevron type, oil and heat resistant, low coefficient of friction.

SERIES HM Horizontal Motorized Speed Reducers are a part of the Winsmith Planetary Differential Reducer line. They feature cut-tooth helical gears for smooth, positive power transmission — greater load carrying capacity — larger reduction ratios in smaller, more compact units — minimum wear and long service life. Winsmith Horizontal Motorized Differential Reducers are easy to install, require no bedplate, deliver more horsepower per pound of weight and cubic foot of space, and permit easier integration with the driven machine.

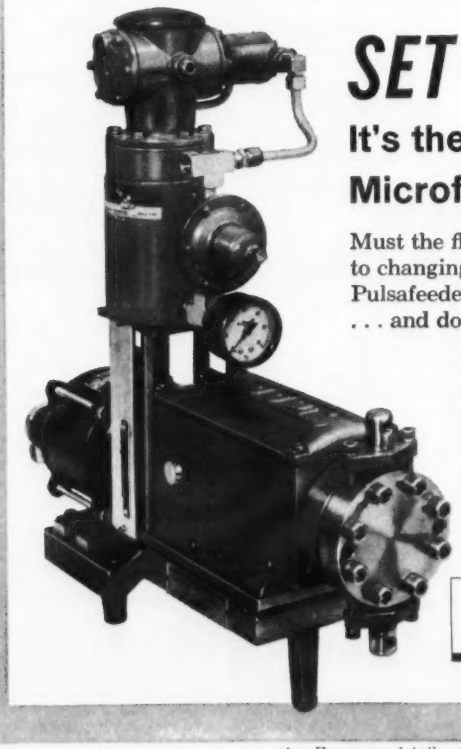
WRITE TODAY for complete information or call your nearest Winsmith Representative listed in the Yellow Pages. For both standard and special power transmission applications, you'll find it pays to standardize on Winsmith.

WINSMITH® SPEED REDUCERS
MEMBER OF AGMA

WINSMITH, INC.
216 Eaton St., Springville, (Erie County), N. Y.

• Winsmith Speed Reducers are made by American craftsmen to meet American design and production standards.

For more details circle **NED-830 E1** on enclosed inquiry slip



SET IT...FORGET IT!

It's the LAPP Auto-Pneumatic Microflo PULSAFEEDER

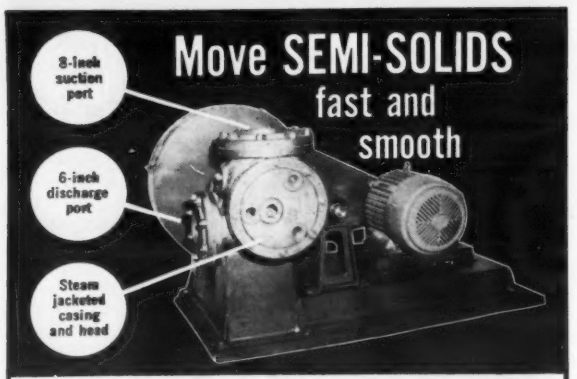
Must the fluids used in your process be metered in relation to changing conditions? Then the Lapp Auto-Pneumatic Microflo Pulsafeeder will provide flexible liquid metering you require . . . and do it *automatically.*

Control instruments sense any change in the process condition. They record it and send an air signal describing the change. Our Auto-Pneumatic Microflo Pulsafeeder interprets the signal and automatically corrects its pumping rate. Truly, you can set it . . . and forget it!

FREE—Catalog 59 has more information. *Write* Lapp Insulator Co., Inc., Process Equipment Division, 1817 Poplar Street, LeRoy, N. Y.

Lapp PULSAFEEDER
METERING PUMPS

For more details circle **NED-825 E1** on enclosed inquiry slip



Move SEMI-SOLIDS fast and smooth

with VIKING ROTARY PUMPS

Moving thick, viscous materials is routine work for this Viking Pump because it's made to do that job. Vikings are built to cut costs and do jobs better. For example, like the unit shown above . . .

- The pump is all bronze.
- It has an 8" suction and a 6" discharge.
- It has a steam jacketed casing and head.
- It delivers a corrosive thick material of 350,000 S.S.U. viscosity, at 50 G.P.M. against 150 P.S.I.

You may be surprised, surely you'll be pleased to learn how easily Viking Pumps can handle semi-solids for you.

Send today for Catalog CG

VIKING PUMP COMPANY

Cedar Falls, Iowa, U.S.A. In Canada, It's "Roto-King" Pumps

50 YEARS

See Our Catalog In Sweet's Plant Engineers File

For more details circle NED-831 E1 on enclosed inquiry slip

TYGON GASKETING

Tygon Plastic Gasketing is highly resistant to acids and alkalis. It is tough, resilient and non-aging; resists wear and abrasion. Cut your own from sheets, tubing or solid cord . . . or we will provide molded gaskets, grommets or seals to your specifications.

WRITE FOR BULLETIN G-520

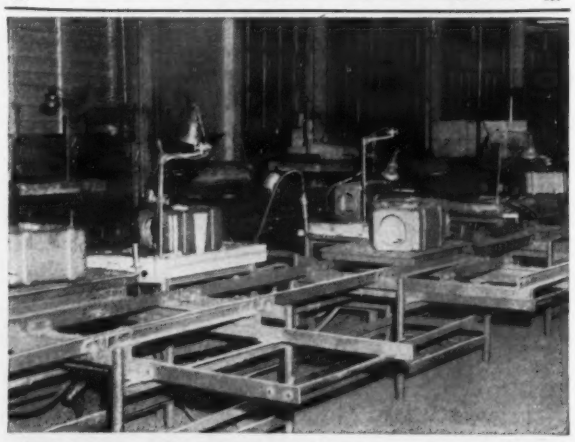
Plastics and Synthetics Division

U. S. STONEWARE

AKRON 9, OHIO

214-E

For more details circle NED-832 E1 on enclosed inquiry slip



NOMAD CONVEYORS SERVICE 36 OPERATORS *QUICKLY*—insure even flow of work!

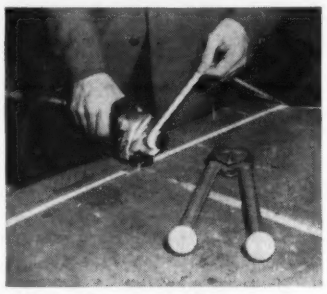
Four 81-ft. Nomad 2-Level Conveyors carry work, on wheeled pallets, to 36 work stations. Transfer cars which travel back and forth at right angle to the main conveyor lines bring work to each operator. "Through traffic" is maintained by a second set of rails on the transfer car automatically coming into position. Work completed, the transfer car is pushed back to the conveyor line and the work station is ready for the next pallet. The completed work is removed at the far end of the line. Empty pallets return on a lower line by gravity to the loading end of the conveyor.

NOMAD EQUIPMENT

NOMAD EQUIPMENT CORPORATION
3110 W. FOND DU LAC AVE., MILWAUKEE 10, WIS.
DESIGNERS and MANUFACTURERS of COMPLETE CONVEYOR SYSTEMS

For more details circle NED-833 E1 on enclosed inquiry slip

CORD STRAPPING TENSIONER
handles widths from 1/4 to 3/4 in.

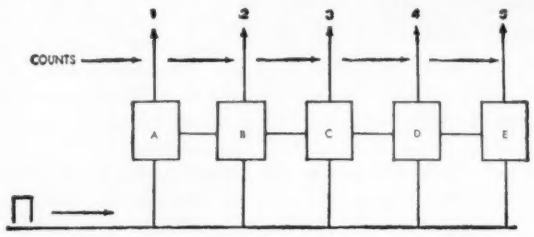


Lightweight, easily handled pneumatic tensioner for heavy duty Avistrap super-strength rayon cord strapping is available on a lease or sale basis. Model AVN-1 pusher type tensioner uses any size strap from 1/4 to 3/4 in. wide and closed seals. Primary application is for corners and round and irregular surfaces. Model AVN-2 also uses any size strap, but applies both open and closed seals for top or side strapping of pallets and cartons. Tension on both tools can be regulated. Strapping is offered in coils of five widths and seven strengths for palletizing, reinforcing, banding, unitizing, and baling. • **American Viscose Corp.**, Industrial Packaging Dept., 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

For more details circle NED-834 E1 on enclosed inquiry slip

STEPPING RELAY ASSEMBLY
for industrial machine control

Industrial machine control stepping relay assembly depicted by this block graph consists of an array of high current capacity relays arranged upon a chassis



with auxiliary components and wired to customer requirements. Assemblies are available in count-up, count-down, and combination systems, with or without instantaneous reset, for an unlimited number of points or circuit banks. Standard units with four, five, or ten points are designed for a life of 200 million steps without service, lubrication, or adjustment. Any specified power rating is available. • **Guardian Electric Mfg. Co.**, Programation Div., 1621 W. Walnut St., Chicago 12, Ill.

For more details circle NED-835 E1 on enclosed inquiry slip

CORRECTION

In the description of the new FA-40 Tele-Eye closed-circuit television camera, (Item NED-531, April '60) the price was erroneously stated as $695. The actual price of this television camera is $797, including power supply, lens, and cable. The tripod lists for $45, and the panoramic head is priced at $24. • **Majestic International Sales, Inc.**, 743 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-836 E1 on enclosed inquiry slip

DRILL ANY MASONRY or GRANITE at LOWEST COST

WITH Thunder-twist® CARBIDE-TIPPED HAMMER BITS

Now one man and Thunder-twist — powered by any electric or pneumatic hammer can drill more than 100 holes in hard concrete without resharpening (*). Exclusive impact-resistant bit design, with positive two-way dust removal eliminates stalling and binding.

For your next drilling job get Thunder-twist Bits. Sizes 7/16" to 1½" diameter — extended lengths to 18".

SEND FOR FREE "MASONRY BIT SELECTOR GUIDE"

NEW ENGLAND CARBIDE

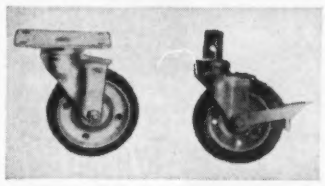
and start using today's most economical MASONRY BITS

Write to: NEW ENGLAND CARBIDE TOOL CO., INC.
55V Commercial Street Medford 55, Mass.

(*) Proof of Performance On Request.

For more details circle NED-837 E1 on enclosed inquiry slip

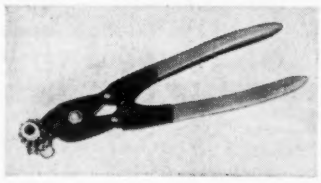
LIGHT-DUTY CASTERS
load capacities from 120 to 150 lb



Series 100 light-duty casters in both swivel and rigid types are designed for utility trucks, dollies, racks, chests, and service carts. Swivel units have a double ball-bearing swivel assembly with dustproofed raceways. Standard nonmarking, brown-tired, disc wheels are offered in 3½, 4, and 5-in. diameters and are built for load capacities from 120 to 150 lb. Regular plate tops and various dimensions of threaded, square, round, and friction ring stems are standard. Foot-operated tire-friction brake is optional in the 4-in. series. • **George Mittleman Caster Co.**, 1228 Utica Ave., Brooklyn 3, N. Y.

For more details circle NED-838 E1 on enclosed inquiry slip

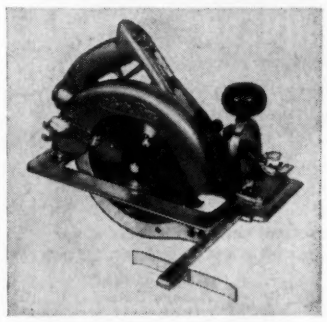
GLASS TUBE CUTTER
also cuts other brittle materials



Easily used Squeeze and Pop glass tube cutter applies cutting action to the outside surface, quickly and accurately cutting off any desired length. The pocket-size tool cuts all types and sizes of gage glass, including 3/4-in. high temperature glass. It also can be used on laboratory glass tubing and various other brittle tubular materials such as porcelain insulators, thermocouple protection tubes, and electrode porcelains. Price is $14.95. • **Wheeler Mfg. Corp.**, Box 688, Ashtabula, Ohio.

For more details circle NED-839 E1 on enclosed inquiry slip

AIR-POWERED SAW
14-lb tool runs at 6000 rpm



Operated safely in any atmosphere, this air-powered portable saw can be used indefinitely at its maximum cutting rate without overheating or motor damage. Depth of cut at 90 degrees is 0 to 2 11/16 in.; at 45 degrees it is 0 to 2 in. The saw uses a 5/8-in. arbor, 8¼-in. blade, and consumes 30 cfm of air under normal operating conditions. Standard operating speed is 6000 rpm, developed in a direct drive. Other speeds can be specified. Saw weighs less than 14 lb. • **Master Power Corp.**, Krick Road, Bedford, Ohio.

For more details circle NED-840 E1 on enclosed inquiry slip

Mark 5F Ultrasonic Flaw Detector

Price for single frequency unit — $1785.00 plus accessories

Portable, ultrasonic testing equipment provides on-the-spot inspection of metals, ceramics and similar materials. Curtiss-Wright's Mark 5F clearly locates cracks or other internal and surface defects with exceptional close-to-the-surface sensitivity. The Mark 5F is designed to provide optimum performance over a broad range of quality improvements and cost reduction applications in laboratories, shops, or in the field.

- **Portable** — 5¼" wide x 10⅝" high x 18⅛" deep
- **Lightweight** — weighs only 28 lbs.
- **Exceptional Sensitivity** — detects flaws as small as 1/64" diameter
- **High Resolution** — defects of 3/64" diameter can be detected .030" below the surface.
- **Operating Flexibility** — provides test frequencies from .6 to 5.0 megacycles.
- **Clear Presentation** — high brightness cathode ray tube provides easy viewing, even in full daylight.

Write for additional information or phone SWinburne 9-0500

CURTISS WRIGHT

Princeton Division CORPORATION Princeton, New Jersey

Manufacturers Representatives Solicited. Electronics and Automatic Systems Engineers interested in career positions, send detailed resume to P. O. Box 110, Princeton, N. J.

For more details circle NED-841 E1 on enclosed inquiry slip

NONCLOGGING NOZZLES
eight new models in spiral line

Made from one piece of material and providing good atomization at low pressures, eight new models of nonclogging spiral nozzles round out the line with intermediate capacities. All are of the pinless spiral design. The new TF10 and TF14 Series have capacities of 4 and 8 gpm, respectively, at 40 psi with wide or narrow angle and full or hollow cone patterns. Each model is offered in brass, Type 303 stainless steel, Teflon, polyvinyl chloride, plastic, and hard rubber. • **Bete Fog Nozzle, Inc.**, 309 Wells St., Greenfield, Mass.

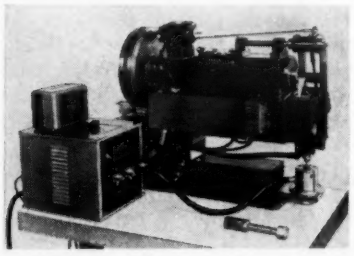
▲ For more details circle **NED-842 E1** on enclosed inquiry slip ▲

BIMETAL DISC THERMOSTATS
quick make-and-break type

Quick make-and-break of the circuit is performed by Types A and AY snap-acting, fixed-temperature bimetal disc thermostats suited for use in appliances and industrial apparatus. Compact units are available with either enclosed or exposed sensing discs and with screw, solder, spade, formed, or elevated terminals. They are supplied in many ranges, tolerances, and differentials for operation from −20 to 300° F. Type A is rated 13.5 amp resistive at 120 v ac for 6000 cycles, whereas Type AY is rated 4 amp at 120 v ac for 100,000 cycles. • **Stevens Mfg. Co.**, Box 1007, Mansfield, Ohio.

▲ For more details circle **NED-843 E1** on enclosed inquiry slip ▲

EYELETTING MACHINE
has printed circuit applications

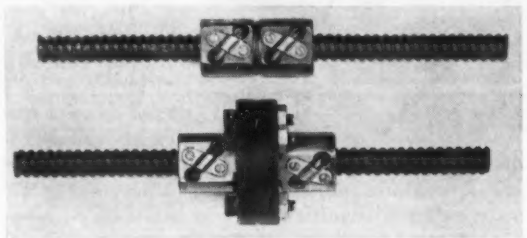


Model TW eyeletting equipment automatically feeds, sets, and resistance-fuses eyelets as small as 0.020-in. ID to printed circuit boards as thin as 1/64 in. Through connections made by the easily controlled machine conform to MIL Standard 275A and withstand all environmental tests. Interlocking mechanical and electrical cycles insure complete mechanical setting of the eyelet before it is fused. Both mechanical dwell time and heat cycle are variable up to 1 sec. Machine is delivered tooled and ready for operation. • **Edward Segal**, 132 Lafayette St., New York 13, N. Y.

▲ For more details circle **NED-844 E1** on enclosed inquiry slip ▲

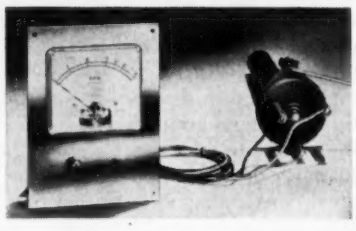
BALL BEARING SCREWS
new design eliminates backlash

Cost reduction of ball bearing screw assemblies has been realized by providing two nuts on the same screw, preloaded against each other to eliminate backlash. Interlocking dog stops on mating nut surfaces prevent rotation. A spring washer surrounds the stops and produces the preloading. Nut diameter has been reduced. Relative size of new spring preloaded design (top) is shown with the previous design (bottom). • **General Motors Corp.**, Saginaw Steering Gear Div., 3900 Holland Rd., Saginaw, Mich.



▲ For more details circle **NED-846 E1** on enclosed inquiry slip ▲

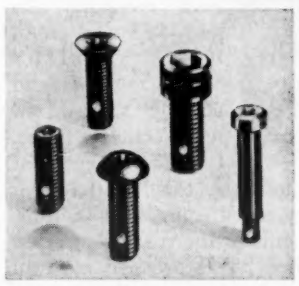
ELECTRONIC TACHOMETER
measures 0-2500 rpm shaft speeds



An electronic metering panel and a remote pick-up head are features of this tachometer which requires no current flow when in operation. A front panel switch affords rapid read-out of shaft speed. The pick-up head is attached to any shaft end by a single stud bolt. Model 101 for speeds from 0 to 60 rpm and Model 102 for speeds to 2500 rpm have a 3-in. meter on a 4¾ x 6½-in. plastic panel. It is powered by a single mercury battery. • **Rampe Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

▲ For more details circle **NED-847 E1** on enclosed inquiry slip ▲

SELF-LOCKING SOCKET SCREWS
feature a red nylon locking pellet



Multiple-spline and hex socket screws with the Nylok self-locking insert are offered in a wide size range for vibration-resistant uses in machines, machine tools, instruments, electronic components, and appliances. These Bristol - Nylok Socket screws are identified by their red nylon locking pellet insert. • **Bristol Co.**, Box 1790, Waterbury 20, Conn.

▲ For more details circle **NED-848 E1** on enclosed inquiry slip ▲

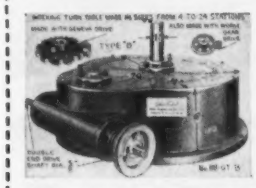
EISLER

FOR 39 YEARS

We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled

AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

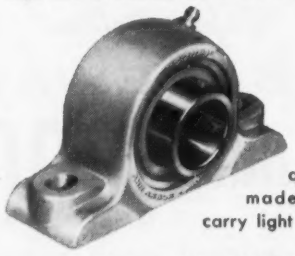
▲ For more details circle **NED-849 E1** on enclosed inquiry slip ▲

SELF-ALIGNING
PILLOW BLOCK BEARINGS

Hoover SP and SPH series pillow block bearings are designed for quick, easy installation. They are automatically self-aligning in any direction. The eccentric collar forms a self-tightening shaft lock. Elongated bolt holes in the base of the pillow block simplify mounting.

Hoover Quality bearing features assure long life and superior performance. *Hoover Honed* raceways are super smooth, superbly finished. *Micro-Velvet* balls are accurate within millionths of an inch. Felt seals with metal shields retain factory applied lube and protect working surfaces from dirt.

Recommended for light to normal duty load conditions and shock, Hoover SP and SPH series bearings are available in shaft sizes from ¾" to 2 15/16".



LIGHT DUTY PILLOW BLOCK BEARINGS

ED series meets requirements for quality made, economical units to carry light loads at normal speeds.

Hoover-Honed and *Micro-Velvet* are Hoover Trademarks.

hoover
BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses: 8581 South Chicago Ave., Chicago 17, Illinois; 290 Lodi Street, Hackensack, New Jersey; 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company NED-5
5400 South State Road, Ann Arbor, Michigan
Please send Bulletin 106 which describes Pillow Block Bearings
Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State____

▲ For more details circle **NED-850 E1** on enclosed inquiry slip ▲

LAKE BALERS
High Speed - Safe - Efficient - Low Cost

LAKE BALERS operate maintenance-free and trouble-free—they do not even require lubrication. Bales are ejected automatically. All moving parts are completely housed for employee protection. Smaller LAKE BALERS are portable and provide a semi-automatic bale tying feature.

LAKE BALERS:-SAVE SPACE
-REDUCE FIRE HAZARD
-REDUCE PILFERAGE
-IMPROVE HOUSEKEEPING
-ACTUALLY MAKE MONEY

A PRESS FOR EVERY MATERIAL AND EVERY REQUIREMENT

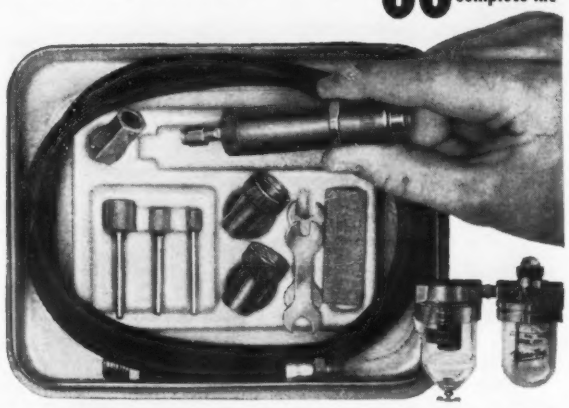
CAPACITIES TO 10,000 LBS. PER HOUR

DISTRIBUTED BY LEADING MATERIAL HANDLING DEALERS THROUGHOUT THE UNITED STATES AND CANADA

LAKE ENGINEERING COMPANY
312 GOSTLIN STREET
HAMMOND, INDIANA

▲ For more details circle **NED-845 E1** on enclosed inquiry slip ▲

New Buckeye Air Grinder for Precise Grinding...NOW ONLY $88.50 complete kit



KIT INCLUDES: 1—14G air grinder, 3—nose pieces, 3—grinding points, 1—5' hose and couplings, 1—dressing stone, 3—Wrenches, 1—Vitalizer (air filter and lubricator), 1—plastic case.

COMPARE THESE FEATURES WITH ANY GRINDER IN ITS CLASS.

• LIGHTWEIGHT, only 5 oz. • COMPACT, WELL BALANCED, only 3⅞" long. • INFINITE SPEED CONTROL, RING THROTTLE, 0 to 50,000 RPM. • CAPACITY, ½" mounted points. • RUGGED CONSTRUCTION, one-piece all steel motor housing, large precision ball bearings supporting one-piece spindle. • STURDY VANE-TYPE AIR MOTOR. • QUIET OPERATION. • ⅛" or 3/32" collets.

Order Direct from Factory or Contact Your Local Buckeye Representative Today!

Buckeye Tools CORPORATION
P.O. BOX 966 DAYTON 1, OHIO

For more details circle NED-851 E1 on enclosed inquiry slip

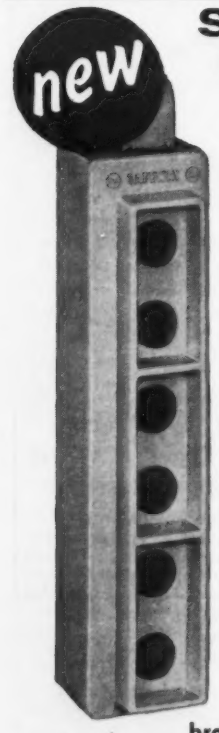
When stamped on Anchor hydraulic components . . . the Anchor emblem is your definite assurance of constant, uniform quality in design, engineering and manufacture . . . and *complete reliability* in hydraulic transmission lines. Anchor fluid power components eliminate equipment downtime . . . production delays . . . idle manpower.

Anchor's comprehensive line of Hydraulic Hose Assemblies with Pressed-On, Reusable, Clamp-Type or 4-Bolt Split-Flange "O" Ring Head Couplings . . . Hydraulic Hose . . . Adapters, Adapter Unions, Pipe Fittings, and SAE Boss Fittings with the greatest variety of thread combinations—pipe, J.I.C., SAE—give long life, uninterrupted trouble-free service . . . with minimum maintenance.

Andy Anchor says: "Remember . . . Send for the Condensed Catalog . . . to help you choose the *right* Anchor hydraulic component for your equipment."

ANCHOR Coupling Co. Inc.
338 No. Fourth St., Libertyville, Ill.
Branch Plants: Dallas Tex., Plymouth, Mich.

For more details circle NED-852 E1 on enclosed inquiry slip



new

SOFT RUBBER ENCLOSURES

"Safety Yellow"®

SAFEWAY

SERIES #4000

pendant push button ENCLOSURES

protects the work and the workmen

SAFEWAY "Safety Yellow" pendant push button enclosures are SAFER.

1. SOFT Rubber Oil-Proof NEOTEX Construction . . . won't injure or damage on contact.
2. GREATER VISIBILITY . . . with "Safety Yellow" the high visibility color.

Accommodates all standard oil-proof push buttons.

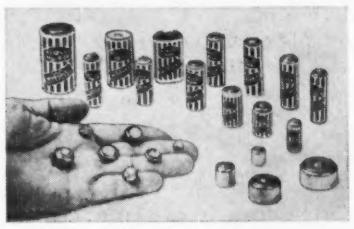
WRITE TODAY—for FREE brochure giving full details

907 SAFETY FIRST

DANIEL WOODHEAD COMPANY
15 N. Jefferson St., Chicago 6, Ill.

For more details circle NED-853 E1 on enclosed inquiry slip

MERCURY CELLS & BATTERIES
17 types serve unlimited cell needs



From 17 basic types of mercury cells in the expanded Burgess line, an almost unlimited variety of multiple-cell batteries can be designed to meet space, weight, voltage, life, or other considerations. These cells are used primarily where a constant voltage level is important. They operate either intermittently or continuously through a wide range of temperature and pressure conditions. In addition to basic standard cells and multiple-cell batteries, more than 60 types of mercury batteries are available on special order. • **Burgess Battery Co.**, Freeport, Ill.

For more details circle NED-854 E1 on enclosed inquiry slip

PLASTIC PROTECTORS
can be used as caps or plugs

Tough, nonshredding elastic polyethylene is used in the GP line of general purpose plastic protectors for many types of ¼ to 2¼-in. threaded and nonthreaded parts and tubing. Usable as a cap or plug, they provide protection to parts during shipping, storage, and manufacturing operations. Plastic is resistant to acids, alkalies, caustics, petroleum products, and most common solvents. Temperature and dimensional stability are good from −95 to 175° F. • **S. S. White Dental Mfg. Co.**, Industrial Div., 10 E. 40th St., New York 16, N. Y.

For more details circle NED-855 E1 on enclosed inquiry slip

LIQUID FLOOR COATING
prevents wear, spalling, dusting

Chemi-Coat catalyst hardened, reinforced co-polymer liquid floor coating fills and levels small holes, hairline cracks, chips, and slightly spalled interior concrete floors. It dries overnight into a surface said to be four times tougher than the concrete itself. Subsequent wear, dusting, and spalling are prevented. Two ingredients of the coating are easily mixed, poured on the floor, and brushed smooth. It expands and contracts with the floor and carries heavy loads without rutting. • **Garland Co.**, 3748 E. 91st St., Cleveland 5, Ohio.

For more details circle NED-856 E1 on enclosed inquiry slip

MARLIN-ROCKWELL RELIABILITY MRC COUNTS in PILLOW BLOCKS with *Labri-Seal*® Ball Bearings

• Self Aligning
• Positive Locking
• Permanently Lubricated

MRC Pillow Blocks combine smooth contour and compact design with the rugged strength of malleable iron.

They are easy to mount and demount with bolt holes designed to fit existing installations.

Besides this rugged construction — MRC Pillow Blocks are equipped with MRC Labri-Seal® pre-lubricated Ball Bearings. Keep GREASE IN — keep DIRT OUT in temperatures ranging from −80°F. to +225°F.

Shaft sizes ½" to 2 15/16"

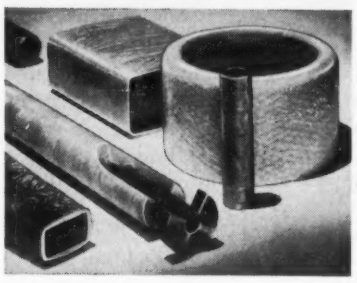
Send for FORM 1550 listing sizes of MRC Pillow Blocks and Flange Units

MRC BALL AND ROLLER *bearings*

Marlin-Rockwell Corporation
Jamestown, N. Y.

For more details circle NED-857 E1 on enclosed inquiry slip

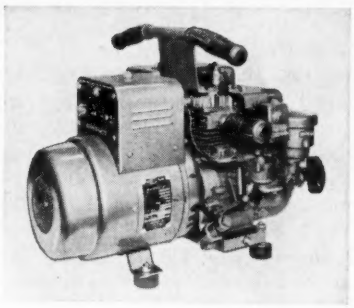
GLASS-EPOXY TUBING
exhibits high thrust strength



Made of continuous glass filament strands that are bathed in epoxy resin, helically wound, then heat cured, GFW-60 tubing exhibits burst strength which exceeds that of G-10 grades by 3 to 1. It is possible to achieve exact ratios between burst and tensile strengths to meet specific requirements. Tubing is usable in high-voltage fuse tubes, switchgear, and other components requiring high burst strength. It is offered in various circular sizes and lengths, rectangular or special cross-sectional shapes, and can be furnished in combinations with vulcanized fiber tubes or metal inserts. • **Spaulding Fibre Co.**, 310 Wheeler St., Tonawanda, N. Y.

For more details circle NED-858 E1 on enclosed inquiry slip

PORTABLE ENGINE GENERATOR
provides 1500 w of intermittent ac



Lightweight Winco Super Mite portable engine generator weighing only 82 lb provides 1500 w of intermittent alternating-current power. It is powered by a Briggs & Stratton air-cooled gasoline engine, and a Safeguarded Automatic Conserv-er idling control saves on fuel. A Therma-Trol maintains full engine speed until engine temperature permits smooth idling. Complete with carrying handles, generator can be used to power portable electric tools or provide lights and power at field locations. • **Wincharger Corp.**, E. Seventh & Divison Streets, Sioux City 2, Iowa.

For more details circle NED-859 E1 on enclosed inquiry slip

ALUMINUM FOIL COLOR COATING
air-dries in 30 to 90 sec

Aluminum foil fabricators can color their own aluminum in a range of brilliant colors with Rubbafoil coating which air-dries in 30 to 90 sec. Coating remains flexible and abrasion resistant, and is compatible with present fabricating adhesives. Coating equipment is simple to build, does not require trained personnel, and start-up and clean-up time are practically nil. Dried coating is flame resistant and will not support combustion. • **Rubba, Inc.**, 1015 E. 173rd St., New York 60, N. Y.

For more details circle NED-860 E1 on enclosed inquiry slip

Accurate Flow Control of Viscous Fluids

New Jacketed Diaphragm Control Valves

. . . apply heat uniformly throughout the valve from flange to flange and up to the stuffing box.

Valve will operate in response to control air from any standard 3–15 # range pneumatic controller. Diaphragm operators for 6–30 # ranges are available.

Bodies are semi-steel, Ductile Iron, steel or stainless steel to suit application.

Sizes range from 1¼" to 4". Larger sizes on application.

For complete details and dimensions write for supplement catalog 356-S

Parks-Cramer Co.
PROCESS HEATING DEPARTMENT
FITCHBURG 3, MASSACHUSETTS

For more details circle NED-861 E1 on enclosed inquiry slip

INSECTICIDE SPRAY
is nontoxic and nonflammable

User may smoke while spraying Spix Aerosol nontoxic, nonflammable insecticide which is released in a fine fog for prolonged effect on flies, mosquitoes, and gnats. Suitable for use in kitchens and cafeterias, or wherever food is handled, insecticide is sprayed at a rate of 6 sec per 1000 cu ft. It is also deadly to wasps, roaches, and silverfish. • **C. B. Dolge Co.**, Westport, Conn.

▲ For more details circle **NED-862 E1** on enclosed inquiry slip ▲

COLD WORK TOOL STEEL
deep hardening, high wear type

Up to four times the service life of high carbon, high chrome steels is exhibited by Hi Wear 64, a tungsten tool and die steel which can be hardened at temperatures below 1600° F. It hardens through to the center in sizes up to 6-in. cross section when oil quenched from 1450° F. The steel is essentially nondeforming, with minimum size change occurring after tempering at 300-400° F. It is suited for punches and dies, for making tools to blank and form abrasive materials, and for mold plates used in making refractory materials. Heat treatment produces an average hardness of Rockwell C-64. Despite hardness, steel machines as well as high carbon, high chrome types. • **Carpenter Steel Co.**, 101 W. Bern St., Reading, Pa.

▲ For more details circle **NED-863 E1** on enclosed inquiry slip ▲

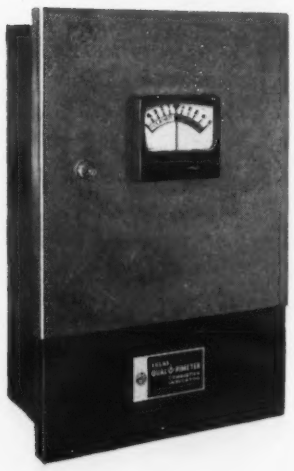
WOOD FLOORING ADHESIVE
bonds to concrete or other surfaces

Noninflammable, cream colored Woodstix adhesive forms a permanent bond between parquet wood blocks, laminated blocks, and any floor surface, including concrete. Tests show that the flooring cannot be removed without chipping the concrete base, once the adhesive has dried. It trowels easily, and provides water resistance when installed directly over suspended or on-grade concrete surfaces, wood subflooring, plywood or hardboard underlayment, terrazzo, old wood floors, or any other flat, hard, and dry surface. Open time is 20 min. • **Adhesive Products Corp.**, 1660 Boone Ave., New York 60, N. Y.

▲ For more details circle **NED-864 E1** on enclosed inquiry slip ▲

for accurate combustion control . . .

SELAS **QUAL-O-RIMETER***
COMBUSTION INDICATOR



It's *new* from Selas! The QUAL-O-RIMETER Combustion Indicator accurately indicates changes in flame characteristics caused by variations in gas fuel supply and air/gas mixture. Extremely sensitive, this compact instrument detects and indicates changes as little as ±5 Btu in fuel gas and ±0.5% air in air/gas mixture in seconds! Changes in flame configuration are indicated just as quickly.

By presampling air/gas mixtures to ovens, lehrs, furnaces and brazing machines, the QUAL-O-RIMETER permits proper adjustment of fuel ratios before production is adversely affected. Want specifics? Write for Bull. Q-2.

SELAS CORPORATION OF AMERICA
195 Dreshertown Rd.
Dresher, Pa.

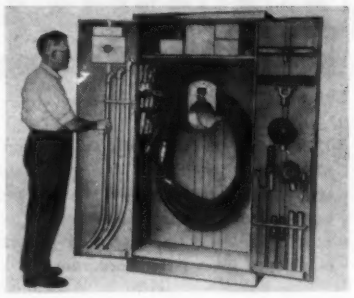
HEAT AND FLUID PROCESSING ENGINEERS
DEVELOPMENT / DESIGN / CONSTRUCTION

SELAS

*T. M. Reg. Applied For

▲ For more details circle **NED-865 E1** on enclosed inquiry slip ▲

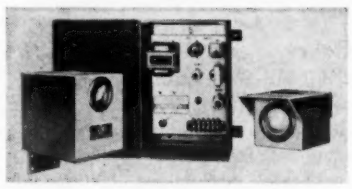
VACUUM ACCESSORIES CABINET
steel unit measures 78 x 40 x 18 in.



Fabricated of 18-gage welded and reinforced steel with light green enamel finish, this 78 x 40 x 18-in. cabinet provides an attractive, protective storage unit for 1½ or 2-in. vacuum cleaning tools. Built-in racks hold up to 100 ft of hose, three curved floor rods, two wall rods, five fiber nozzles and short tubular rods, three 15-in. floor nozzles or three oblong wall brushes, three 8-in. hand brushes, five 3 to 6-in. hand nozzles, six hose couplings and connections, and two elbow attachments. A 12 x 40-in. shelf at the top stores spare parts and extras. Door pockets hold maintenance instructions and tool sheets. Door handle can be locked. • **U. S. Hoffman Machinery Corp.**, 103 Fourth Ave., New York 3, N. Y.

▲ For more details circle **NED-866 E1** on enclosed inquiry slip ▲

PHOTOELECTRIC MACHINE GUARD
uses modulated light beam and is not affected by ambient light



Modulated (pulsating) light beam is utilized by the Modulite photoelectric protective system to detect the presence of operator's hand or arm in the danger area of a press, brake, shear, or roll-forming machine. The pulsating light beam is produced in the projector by a rotating disc with peripheral holes and is set at 540 cps. Control is "tuned" to this frequency and is not influenced by ambient light. Interruption of beam produces a signal that will stop a machine.

Type ML system is intended for use where only limited access to danger area is possible, and where entry is made only through the light beam. Projectors with 1 or 2 in. beams, having ranges up to 20 and 80 ft, respectively, can be selected. Various arrangements of basic components include models with integral receiver and control, dual projectors and receivers, and an invisible infrared beam. • **Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.

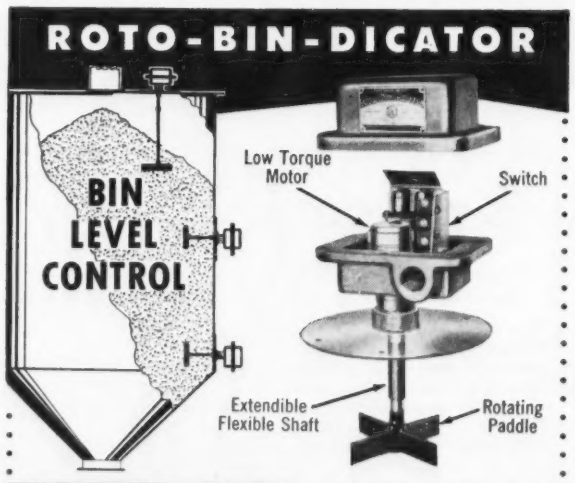
▲ For more details circle **NED-867 E1** on enclosed inquiry slip ▲

Winch-Hoist

Aluminum Products, Inc.—The 1000 to 4000-lb capacity Cadillac winch-hoist, available in five models, is described in 2-page Catalog Sheet 926. It weighs from 7½ to 13 lb, has 20 ft of aircraft cable, and employs a lever to control raising and lowering mechanism. Specifications and uses are shown.

▲ For more details circle **NED-868 E1** on enclosed inquiry slip ▲

ROTO-BIN-DICATOR



HIGH IN PERFORMANCE -All Models Heavy Duty
LOW IN COST -Most Popular Model $55.00
FIRST IN SALES -Since 1957

Underwriters' Laboratories Listed
General Purpose and Explosion-proof Models

Product of
THE BIN-DICATOR CO.
17190-A Denver. Detroit 24, Mich.

Write for detailed literature or phone TU 2-3000

WE SELL DIRECT • PHONE ORDERS COLLECT

▲ For more details circle **NED-869 E1** on enclosed inquiry slip ▲

HEAT BOUNCES BACK OFF ROOFS

protected by Tropical's
COOLERANT!

Bright, non-staining Coolerant, easily brushed or rolled on commercial or industrial roofs, deflects up to 70% of the sun's radiant heat. It reduces below-roof heat up to 26°—you can feel the difference AT ONCE! Reduces air-conditioning load. Prevents summer dry-out, adds years to roof life. Increases winter heating efficiency. Anyone can apply it.

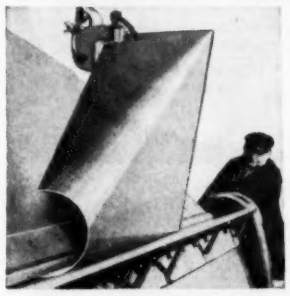
REPAIR AND INSULATE
Tropical Coolerant Fibrated, in one easy brush application, weather proofs and creates a bright heat reflecting surface. Get the facts.

FREE! Complete details sent at once. Beat the heat this summer with Coolerant. Write now!

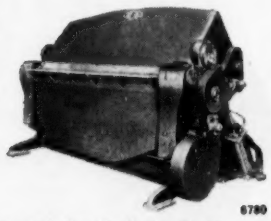
TROPICAL PAINT COMPANY
1124-1238 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle **NED-870 E1** on enclosed inquiry slip ▲

Bending Steel Plates for WELDMENTS?
do it economically with
CHICAGO® BENDING BRAKE



The elimination of die costs and the ease of changing from one job to another make the CHICAGO bending brake the economical method for bending steel plates for weldments. An automatic stop regulating the degree of bend assures duplication on successive pieces.



Many standard sizes are available with capacities for bending mild steel up to 12 feet by ¼ inch or 16 feet by ½ inch.

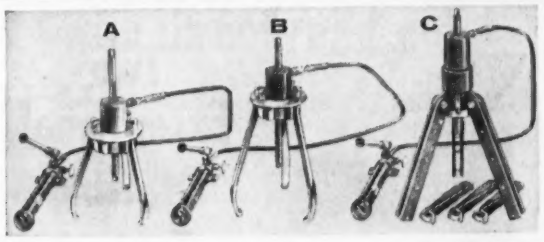
6780

For details on how to do it, ask for Bulletin P-55

CHICAGO DREIS & KRUMP
Press Brakes • Straight-Side-Type Presses • Press Brake Dies
Hand and Power Bending Brakes • Special Metal-Forming Machines

DREIS & KRUMP MANUFACTURING CO.
7436 South Loomis Boulevard, Chicago 36, Illinois

▲ For more details circle **NED-871 E1** on enclosed inquiry slip ▲



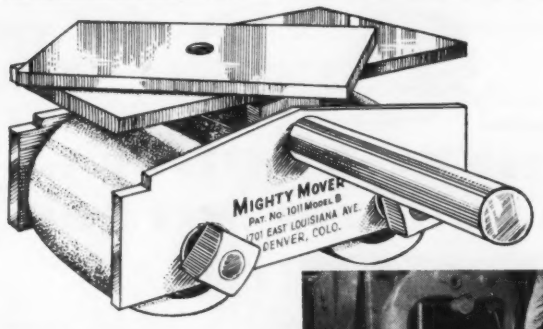
SNAP-ON CG-420 ram and pump assembly shown with A, the CG-400 puller with 9½-in. reach and 13-in. spread; B, the CG-405 puller with 14-in. reach and 15-in. spread; C, the CG-425 heavy-duty puller with 19-in. reach and 20-in. spread.

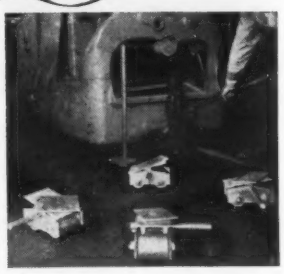
New Snap-on 20-ton hydraulic puller

- Pulls tightest pressed fits in minutes — saves hours of downtime.
- Ram and adaptor provides longer reach than competitive units.
- Accumulator keeps oil free from contamination.
- Ram and pump available separately or with combination 2- and 3-jaw yoke-type, bar-type and floor press pullers together with wide assortment of adaptors.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-E 28th AVENUE • KENOSHA, WISCONSIN

▲ For more details circle **NED-872 E1** on enclosed inquiry slip ▲





This is the

MIGHTY MOVER

A set of 4 can carry 50 TONS!

These tough little dollies roll the heaviest, bulkiest machines with ease! Using a set of Mighty Mover heavy duty dollies, and pry-bars, it is merely routine for two men to move a 30,000 lb. screw machine 70 yards in less than half an hour! Mighty Mover dollies have two 4-inch roller bearing cast iron wheels, tough ½" side plates and top plate that has 360° directional control. Each dolly is 9" long, 5" wide and high, weighs 43 lbs. and can carry 25,000 lbs! They are the smartest answer yet to your plant's moving problems. Write today for prices, shipping information. PHONE: SPruce 7-3946

MIGHTY MOVER COMPANY

1701 EAST LOUISIANA AVENUE DENVER 10, COLORADO

For more details circle NED-873 E1 on enclosed inquiry slip

PLATECOIL®

FOR ALL KINDS OF TANK AND PROCESS HEATING AND COOLING

- Built to fit application requirements
- High heat transfer capacity
- Compact units save space
- Easy to install
- Easy to remove for cleaning
- Available in variety of weldable metals
- Operating Pressures up to 250 psig.

"Platecoil" can be furnished to comply with ASME code

Send for Bulletin P57

PLATECOIL® DIVISION

TRANTER MANUFACTURING, Inc., LANSING 9, MICHIGAN

For more details circle NED-874 E1 on enclosed inquiry slip

MAYLINE

DESK-O-MATIC

Two Exceptional Drafting Tables!

The Mayline May-O-Matic and Desk-O-Matic drafting tables have completely counterbalanced top tilting and top height adjustment action. Continued smoothness of operation is thus assured.

These and other Mayline products will be displayed at the convention of Design Engineers, Booth 732, Cobo Hall, Detroit, May 22-25. Visit our booth for an on-the-scene working demonstration.

MAY-O-MATIC "E" COMBINATION

Mayline Company, Inc.

617 No. Commerce St.

Sheboygan, Wisconsin

MAYLINE

For more details circle NED-875 E1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Handbook of Metals

More than two and a half times as many pages on the selection and properties of metals as were contained in the 1948 edition are included in the "Metals Handbook," 8th edition, Vol. 1. Up-to-date data, including charts, graphs, and tables covering all branches of metals engineering and metalworking, are presented and handily indexed. This reference volume was compiled with the aid of contributions by more than 1300 metalworking specialists. The book contains 1300 pages, 6700 illustrations, 2806 definitions, and data on 456 alloys. Price is $30. Published by the American Society for Metals, Novelty, Ohio.

For more details circle NED-876 E1 on enclosed inquiry slip

Stock Spiral Bevel Gears

Perkins Machine & Gear Co.—Compiled for design engineers and production men, catalog of stock spiral bevel gears describes line of matched and pair-lapped gears which have soft cores for custom boring. They are suited for use in gear boxes and special drives.

For more details circle NED-877 E1 on enclosed inquiry slip

Microwave for Industrial Communications

Lynch Communication Systems Inc.—Private industry is now eligible for microwave licensing under a recent FCC ruling. Detailed in 12-page Bulletin LMR-20 is the Lynch microwave system which is usable as a low cost, flexible transmission medium for telephone, telegraph, teleprinter, protective relaying and telemetering, supervisory control, monitoring, and data transmission. Toll circuit quality is obtained for up to 600 channels at distances from 5 to 1000 miles.

For more details circle NED-878 E1 on enclosed inquiry slip

Multipoint Process Controllers

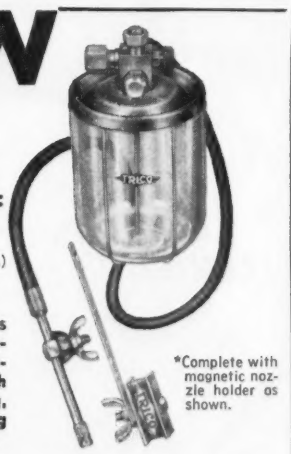
Thermo Electric Co.—8-page Instrument Section No. 52 describes the new Thermo Electronic multipoint controller. This compact, accurate, automatic instrument affords two-position control of up to 10 industrial processes, three-position control of five processes, constant control of a single process, manual balance indication of exact process conditions at each point controlled, or monitoring facilities for controlled and other points.

For more details circle NED-879 E1 on enclosed inquiry slip

N-E-W

. . . and only

$15.00* (in U.S.A.)



*Complete with magnetic nozzle holder as shown.

That's all you pay for this TRICO "Type J" mist coolant unit, yet you will increase production as much as 500% on small drilling, tapping, milling, sawing and grinding operations.

- *compact . . only 3" x 5"*
- *separate air and coolant valves*
- *convenient mounting stud*
- *attaches to existing shop airline*
- *shatter-proof 8 oz. reservoir*
- *magnetic nozzle holder positions anywhere*
- *controlled discharge*
- *neoprene flexible coolant line*

Permits faster speeds—Tools stay sharp longer—Obtain finer finishes and accuracy.

TRICO-MIST Units Also Available in 1 and 5 Gal. Sizes

SEND FOR BULLETIN NO. 37

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

For more details circle NED-880 E1 on enclosed inquiry slip

Conveying Materials on a Stream of Air

Sprout, Waldron & Co.—Details of four standardized Pneu-Flo packaged, positive pressure, pneumatic conveying systems are offered in 8-page Bulletin 228. How the system works is explained, and specifications are tabulated.

For more details circle NED-881 E1 on enclosed inquiry slip

Guide to Automation for Metal Finishers

Meaker Co.—36-page Catalog 160 is offered as a guide to automation for metal finishers. Entitled "When to Automate," it discusses automatic machinery currently in use by electronic and other firms for mass production processing of vital components. Tabulated are data showing electro-chemical equivalents of base and noble metals; data on depositing zinc, copper, tin, nickel, cadmium, and chromium; and separate tables for use with acid, cyanide, and other metal finishing solutions.

For more details circle NED-882 E1 on enclosed inquiry slip

Thermocouple Accessories

Claud S. Gordon Co.—Selection and application information on Xactpak thermocouple wire and accessories for any use are detailed in 12-page Catalog 1-500. Price and ordering guidance is included.

For more details circle NED-883 E1 on enclosed inquiry slip

Roof Ventilators

American-Standard Industrial Div.—High efficiency, quiet operation, and reliability are among the features of the new line of Model CRD direct-drive centrifugal roof ventilators described in 8-page Bulletin 4104. They will handle up to 2788 cfm at zero static pressure, and have 1/40 to ½-hp motors.

For more details circle NED-884 E1 on enclosed inquiry slip

Motorized Variable Speed Drives

Reliance Electric & Engineering Co.—Catalog G-100 contains 88 pages of design and application engineering information on Reeves Vari-Speed Motodrives in ratings from ¼ to 40 hp. These efficient, compact units are made up of an ac motor, variable pitch pulleys, and a gear reduction unit, where specified. Ratios range from 2:1 to 10:1.

For more details circle NED-885 E1 on enclosed inquiry slip

Exploded-View Drawing Service

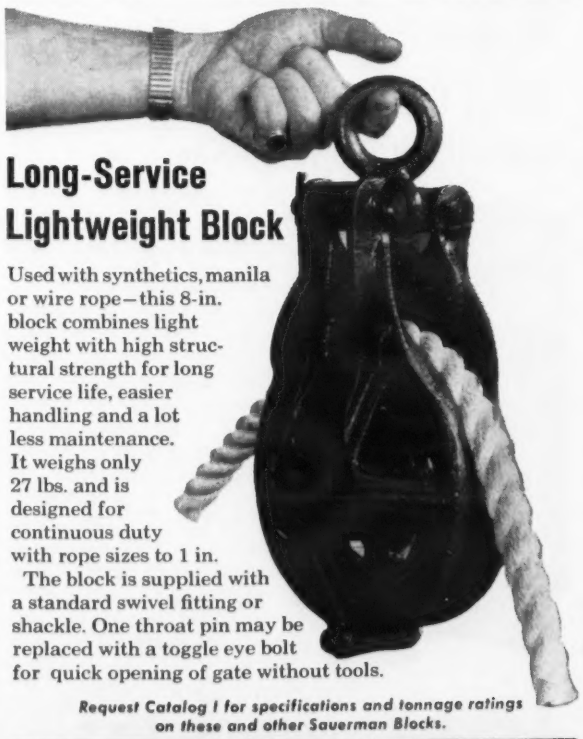
Mischka Co.—Exploded, three-dimensional drawings which serve to enhance instruction manuals, sales presentations, and describe products are shown in 24-page sampling manual. They are typical of the illustrations and drawings which can be provided on a custom basis by this company.

For more details circle NED-886 E1 on enclosed inquiry slip

Transformers for Every Industrial Need

Chicago Standard Transformer Corp.—Almost 900 stock transformers for industrial applications are listed and described in 36-page Catalog CS-101. Also covered are chokes, filters, 400-cycle transformers, and Military Spec units.

For more details circle NED-887 E1 on enclosed inquiry slip



Long-Service Lightweight Block

Used with synthetics, manila or wire rope—this 8-in. block combines light weight with high structural strength for long service life, easier handling and a lot less maintenance. It weighs only 27 lbs. and is designed for continuous duty with rope sizes to 1 in.

The block is supplied with a standard swivel fitting or shackle. One throat pin may be replaced with a toggle eye bolt for quick opening of gate without tools.

Request Catalog I for specifications and tonnage ratings on these and other Sauerman Blocks.

SAUERMAN BROS., Inc.

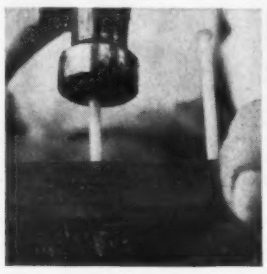
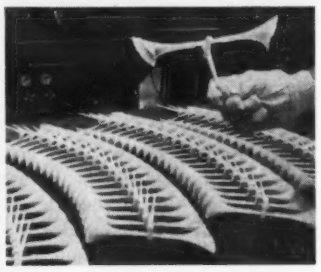
646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

For more details circle NED-888 E1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

HIGH-STRENGTH PLASTIC
replaces metals in many uses

Replacement of metals, such as diecast zinc and aluminum, and brass, copper, and steel is the largest immediate use expected for Celcon, an acetal co-polymer

high strength plastic. It exhibits hardness, stiffness, dimensional stability, light weight, and resistance to abrasion and environmental attack, and can be injection molded into both simple and intricate designs. Plastic will serve in decorative and functional automotive parts where high strength and heat resistance are critical requirements. Other expected uses are as machinery gears and bushings, business machine housings, conveyor belt sections and links, and hose couplings. Photos show Celcon nails being driven through wood in a strength test and as molded plastic heels for women's shoes. • **Celanese Polymer Co.**, 180 Madison Ave., New York 16, N. Y.

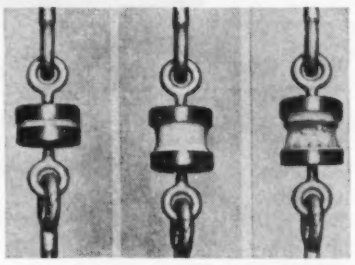
▲ For more details circle **NED-889 E1** on enclosed inquiry slip ▲

LEAK STOPPER
for cement and masonry walls

Flextite is an improved chemical additive (*NED Apr. '52*) that makes a fast leak stopper by regulating the setting of Portland cement. Used as a mortar, it is equally effective as a water resistant plaster coat that seals off seepage and excludes moisture in wet, damp basements, pits, and masonry tanks. It is also suited for pointing spalled areas or reforming exposed reinforcing bars or beams. • **Flexrock Co.**, 3603 Filbert St., Philadelphia 1, Pa.

▲ For more details circle **NED-890 E1** on enclosed inquiry slip ▲

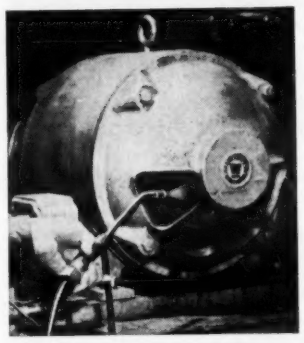
SELF-BONDING RUBBER
silicone type bonds to metals



First of a new series of self-bonding silicone rubber compounds and reinforced gums is SE-5504U grade, a high strength low temperature compound that affords a primerless bond to ferrous-containing metals. Expected mechanical rubber and specialty applications include shock mounts, rubber rolls, and oil seals. Rubber establishes a bond through a direct reaction with the metal surface and therefore requires no primer. It will bond with aluminum and its alloys when a primer is used. Applied under pressure, the bonding process requires application of heat. Cure time and temperature vary with the catalyst used. Typical physical profile after a 25-hr cure at 350° F is: Tensile strength, 1500 psi; tear, 200 psi; elongation, 550 per cent; and durometer, 50. • **General Electric Co.**, Silicone Products Dept., Waterford, N. Y.

▲ For more details circle **NED-892 E1** on enclosed inquiry slip ▲

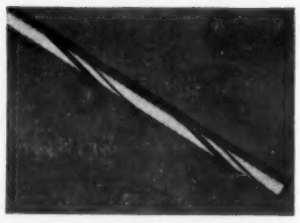
SOLVENT DEGREASER
for cleaning electric motors



Used for in-place or immersion cleaning of electric motors, SS-25 solvent degreaser is reportedly 25 times safer than carbon tetrachloride. Used regularly, it prevents carbon deposits from collecting on commutators, increases life of brushes, and prevents bearings from becoming clogged with grease. Degreaser has a specific gravity of 1.01, has no flash at boiling point, leaves no residue upon drying, and has a sweet odor. • **National Chemsearch Corp.**, 2417 Commerce, Dallas 26, Tex.

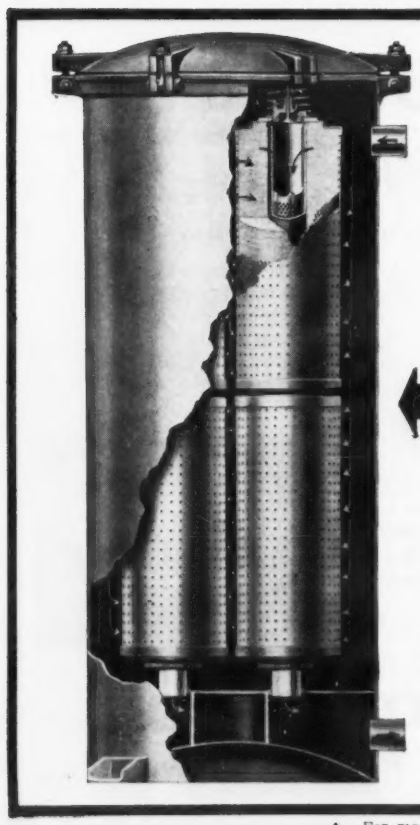
▲ For more details circle **NED-893 E1** on enclosed inquiry slip ▲

VINYL-COATED GLASS TUBING
with continuous color stripes



Turbotuf vinyl-coated glass fiber tubing is now available with continuous color stripes running longitudinally or in a spiral. Tubing is offered with one, two, or three stripes in any color combination. • **American Enka Corp.**, William Brand-Rex Div., Concord, Mass.

▲ For more details circle **NED-894 E1** on enclosed inquiry slip ▲



HILCO

FOR SUPER FILTRATION OF ALL TYPES OF LIQUIDS HILCO FILTERS CUT COSTS

Filter Cartridges of All Types to Take Care of Your Specific Filtration Problems . . .

HILCO'S ELIMINATE : VARNISH AND SLUDGE DEPOSITS : FLUSHING AND MANUAL CLEANING : FREQUENT LIQUID CHANGES :

• *Write for FREE Literature*

THE HILLIARD CORPORATION

31 W. FOURTH ST. • ELMIRA, N. Y.

IN CANADA . . . UPTON-BRADEEN-JAMES, LTD.

890 YONGE ST., TORONTO • 8760 VERVILLE ST., MONTREAL

▲ For more details circle **NED-891 E1** on enclosed inquiry slip ▲

new decorative patterns in H&K PERFORATED MATERIALS

Just three of H & K's new patterns are illustrated here. Many more contemporary and traditional designs are available in steel sheets for immediate shipment from stock. There is also a vast selection of patterns and open areas which can be custom fabricated from existing dies . . . in most materials.

FIND NEAREST H&K AGENT in the 'Yellow Pages' Listed Under "Perforated Metals"

Write for Catalog 75 and/or Stock List of perforated steel sheets

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse

5558 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

▲ For more details circle **NED-895 E1** on enclosed inquiry slip ▲

NOW Spot check humidity anywhere!

NEW Honeywell portable humidity indicator with direct read-out

This indicator is completely self-contained. Power from integral long-life mercury batteries. Provides approximately 100 hours of service, enough for thousands of readings. Overall relative humidity indicating range of 10 to 100% R-H. Responds and indicates changes in relative humidity with accuracies to 1½% R-H. Supplied with each indicator are six indicating dials used in conjunction with the six sensing elements of the corresponding ranges.

- Direct R-H Read-out
- Temperature Compensating Thermister
- Portable
- Transistorized
- Wide Indicating Range
- Accurate

Honeywell

First in Control

Send to Honeywell, Dept. NA-5-56, Minneapolis 8, Minnesota.

Please send additional information on the Honeywell Portable Humidity Indicator.

Name_____

Address_____

City_____ State_____

▲ For more details circle **NED-896 E1** on enclosed inquiry slip ▲

ONE-TRACK MIND

Saves $25 on Every truck unloaded

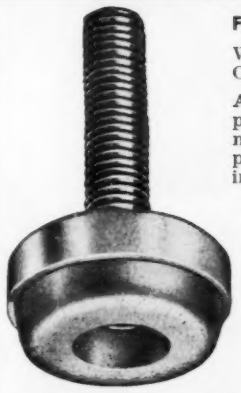
Power operated unit unloads steel by pushbutton control.

This MonoRail track saves $25.00 every time a truck pulls up! But fast unloading of steel is only part of what **American MonoRail** does here. Materials are carried to storage, to machines and to shipping all by **American MonoRail.** Let **American MonoRail's** skilled engineers help you develop an overhead handling idea that may save your plant thousands of dollars. Just give us a call or write for more complete information.

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

▲ For more details circle NED-897 E1 on enclosed inquiry slip ▲

OHIO ADJUSTING SCREWS

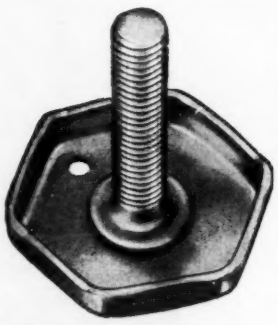


FB ADJUSTABLE FEET

WITH NON-MARKING GRAY PAD

A handsome, sturdy part that provides suction to hold equipment in place, absorb vibration, prevent marring of floors and improve product appearance.

Thread sizes 5/16-18 to ½-13



FT ADJUSTABLE SCREWS

Large hex head gives broad cupped base for easy hand adjustment. Used extensively on appliances as adjustable feet and as hand adjusting screws.

Thread sizes ¼-20 to ½-13

ADJUSTING SCREWS

OVER 50 YEARS OF BETTER FASTENING

Samples and information available upon request

THE OHIO NUT & BOLT CO.

14 First Avenue • Berea, Ohio

▲ For more details circle NED-898 E1 on enclosed inquiry slip ▲

Your Materials Handling File Isn't Up-to-Date . . .

WITHOUT THIS NEW CATALOG!

Send for your **FREE** copy now!

SPAULDING FIBRE COMPANY, INC.
310 Wheeler Street
Tonawanda, New York

Gentlemen: Please send one copy of the new Spaulding Materials Handling catalog, free of charge.

Name _____ Title _____
Firm _____
Address _____
City _____ Zone ____ State _____

SPAULDING FIBRE COMPANY, INC.
310 Wheeler St. • Tonawanda, N.Y.

▲ For more details circle NED-899 E1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Wall Chart on Welding Alloys

All-State Welding Alloys Co.—19½ x 25½-in. wall chart is a guide to the selection and use of welding, brazing, and soldering alloys and fluxes for joining commercial metals. Recommended procedures for each application are given.

▲ For more details circle NED-900 E1 on enclosed inquiry slip ▲

Industrial Counters

Durant Mfg. Co.—All models of counting instruments needed to meet ordinary industrial requirements are reviewed in 8-page Catalog 200. Units covered include stroke, revolution, electric and predetermined, and lineal types. Accompanying price list simplifies selection and ordering.

▲ For more details circle NED-901 E1 on enclosed inquiry slip ▲

Heavy-Duty Hoists

Euclid Crane & Hoist Co.—Series S ½ to 6-ton and Series H 3 to 15-ton capacity trolley hoists are described with tabulated specifications in 8-page brochure. Units can be supplied with single speed, two-speed, or variable speed control. Many trolley arrangements and mountings are available.

▲ For more details circle NED-902 E1 on enclosed inquiry slip ▲

Process Plant Models

Industrial Models, Inc.—Reasons for using scale models as an engineering tool are outlined in 6-page brochure. It details the benefits and savings that can be realized through building a model before building the actual plant.

▲ For more details circle NED-903 E1 on enclosed inquiry slip ▲

Spray Nozzles for Metal Cleaning

Spraying Systems Co.—Spray nozzles and accessories specifically used in the metal finishing field are subject of 8-page Bulletin 106. The reference manual covers washing, rinsing, fogging or wetting, coating, and related operations.

▲ For more details circle NED-904 E1 on enclosed inquiry slip ▲

Preparing for a Computer System

Philco Corp. Computer Div.—What to do before installing a computer system is related in 5-page booklet, written for businessmen planning to start computer operations. It describes in nontechnical language system analysis, specifications, design, and full operation of the computer.

▲ For more details circle NED-905 E1 on enclosed inquiry slip ▲

Narrow Aisle Handling Trucks

Raymond Corp. — On-the-job photos in 16-page booklet show a variety of applications for line of narrow aisle electric trucks and hydraulic hand pallet trucks. Featured is a new triple telescopic mast, as well as standard and heavy-duty power units.

▲ For more details circle NED-906 E1 on enclosed inquiry slip ▲

Carbide-Tipped Saws

Borg-Warner Corp., Atkins Saw Div.—Fully illustrated Catalog 60-CT lists all Atkins carbide-tipped circular saws and bandsaws for cutting woods, laminates and composition materials, plastics, and nonferrous metals. Different tooth styles and recommended uses for each type are given along with pointers on saw care and maintenance.

▲ For more details circle NED-908 E1 on enclosed inquiry slip ▲

Wire Fabrications & Plastic Coatings

W. E. Pipkorn Mfg. Co.—"A Four Point Report From WEPCO" is title of Folder 3547 which points up company's expansion program and facilities for producing wire fabrications and plastic coatings. Custom fabrication, custom coating, and production aids fabrication are covered.

▲ For more details circle NED-909 E1 on enclosed inquiry slip ▲

Bi-Metal Dial Thermometers

Manning, Maxwell & Moore, Inc.—20-page Catalog 155 illustrates and describes a complete line of bimetal dial thermometers. Units are available with back, bottom, side, and the "every angle" connection which allows thermometer to be mounted in the easiest reading position. They are offered in scales ranges from −80-120° to 200-1000° and from −50-50° up to 100-500° C.

▲ For more details circle NED-910 E1 on enclosed inquiry slip ▲

Cast-To-Shape Products

Vanadium-Alloys Steel Co.—Sections in file folder on cast-to-shape products cover patterns, molding, melting, finishing, and quality control. Castings are produced by conventional sand casting, shell molding, and ceramic molding processes. Data sheets cover Formex 1 and 2 hot work die steels, Cromex 1 and 2 high carbon-high chromium type die steels, and Airex 5 per cent chromium air hardening tool steel.

▲ For more details circle NED-911 E1 on enclosed inquiry slip ▲

Grounding Portable Electric Tools

Arrow-Hart & Hegeman Electric Co.—Revised edition of 8-page "Grounding Facts" interprets and clarifies revised Code requirements on new grounding devices for portable electric tools and equipment. Typical grounding installations from 15 amp, 125 v to 50 amp, 125/250 v are pictured and described. Many grounding receptacles, caps, and connectors are covered as well.

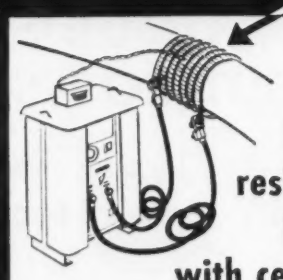
▲ For more details circle NED-912 E1 on enclosed inquiry slip ▲

Metal Fasteners Corrosion Guide

H. M. Harper Co.—Various kinds of corrosion and the different metals suited to resist them are thoroughly reviewed in 24-page "Harper Corrosion Guide." Discussed are brass, naval bronze, nickel and high-nickel alloys, stainless steels, aluminum, copper, Monel, high temperature alloys, and 136 corrosive agents. Chart shows how well each metal resists each of the agents. Another chart deals with Harper metal fasteners, together with various standard specifications.

▲ For more details circle NED-913 E1 on enclosed inquiry slip ▲

NEW IDEA for preheating and stress relieving



ARCOS Heat-O-Coil resistance wire insulated with ceramic beads

• Low cost • Easy to apply • Ideal for field use • Uses standard welding equipment.

Write for bulletin

ARCOS CORPORATION
1500 S. 50th St., Philadelphia 43, Pa.

▲ For more details circle NED-907 E1 on enclosed inquiry slip ▲

RUST VETO SPRAY

● **The modern way to prevent rust.**

Handy, push-button spray protects tools, jigs, dies, machines the easy way. Provides positive rust protection without messy dipping or brushing. Fast, easy and economical to use on highly finished parts stored or wrapped for shipment. Hundreds of uses around any industrial plant. Sold only in case lots (12 per case).

For details, write
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

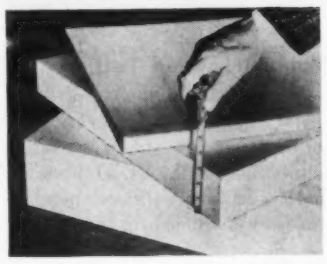
Houghton

INDUSTRY'S PARTNER IN PRODUCTION

▲ For more details circle NED-914 E1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

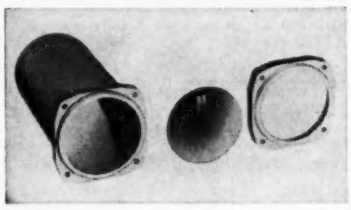
LARGE TEFLON SHEETS
made in thicknesses up to 8 in.



Fabricating savings and new design possibilities in the electrical, chemical, and mechanical industries are afforded by making Teflon TFE-fluorocarbon resin available in large sheet form. It is offered in thicknesses up to 8 in. and up to 25 in. square. Largest previous size was up to 2 in. thick in 12-in. square sections. • **Polymer Corp.**, 2120 Fairmont Ave., Reading, Pa.

▲ For more details circle **NED-915 E1** on enclosed inquiry slip ▲

METALLIZED GLASS
for use in hermetic sealed units



Glass in a wide range of sizes and shapes is available with its surface metallized for soldering. It is suited for use in hermetically sealed units where viewing the operation of sealed components is desired. The metallized shapes are furnished with recommendations for design of suitable glass apertures, plus details of the process for assembly and soldering of glass to cases of units to be sealed. • **Electro-Seal Corp.**, 946-A North Ave., Des Plaines, Ill.

▲ For more details circle **NED-916 E1** on enclosed inquiry slip ▲

URETHANE FOAM
has self-adhesive backing

Unaffected by repeated flexing and prolonged compression, urethane foam has good vibration damping and sound absorbing qualities. It also resists water, oils, chemicals, rot, fungus, mildew, and termites. Foam has a pressure-sensitive self-adhesive backing for a wide variety of cushioning, insulating, and sealing uses. Applications include gasketing, case liners, electronic equipment dust seals, weather stripping, air duct seam seals, and packaging. Sizes, shapes, and colors are produced to order. • **Air-O-Plastik Corp.**, 310 17th St., Union City, N. J.

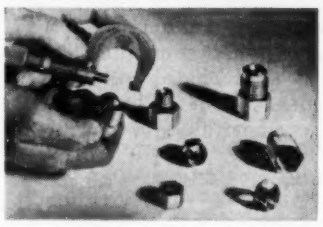
▲ For more details circle **NED-917 E1** on enclosed inquiry slip ▲

CHEMICAL-RESISTANT TUBING
combines Teflon and Micarta

Teflon lining bonded within an outer sleeve of Micarta laminate comprises HY-380 chemical-resistant tubing designed primarily to transport corrosive liquids. Tubing is also suitable for use as bearings or bushings, with the Teflon sleeve providing a low coefficient of friction, and the Micarta furnishing high physical strength. Good dielectric properties are unimpaired by aging at high temperatures in the presence of corrosive acids. User supplies the Teflon lining to the company which then manufactures the tubing in 2 to 12-in. ID sizes with wall thicknesses ranging from 1/8 to 1 in. Maximum length is about 2 ft. • **Westinghouse Electric Corp.**, Micarta Div., Hampton, S. C.

▲ For more details circle **NED-919 E1** on enclosed inquiry slip ▲

HEX BRASS ROD
1/2 to 2 1/2 in. sizes have round corners



Rounded corner RC Hex free-cutting brass hexagon rods are available in 32 sizes from 1/2 to 2 1/2 in. across the flats. The rod affords saving in weight and often allows a larger size rod to be used on a specific screw machine. Rod is primarily used for making brass bolts, nuts, hydraulic and automotive fittings, and other parts where the hex serves as a wrenching shape. With no sharp corners, rod is easy to handle and is less susceptible to nicking. RC Hex can also be made in naval and leaded naval brasses, manganese bronze, nickel-silver, and other alloys. Shown are chrome-plated brass parts machined from this rod. • **Titan Metal Mfg. Co.**, Bellefonte, Pa.

▲ For more details circle **NED-920 E1** on enclosed inquiry slip ▲

EXTRUDED PLASTIC TUBING
in coils, cut pieces up to 3-in. OD

Flexible or rigid vinyl, polyethylene, polyproplylene, and other thermoplastic tubing up to 3-in. OD comprise a new tubular plastic line. Tubing is available on spools, in coils, or in cut lengths from 1/32 in. to 250 ft. Wall thickness, inside diameter, and other requirements can be specified by the customer. • **Petro Plastics Co.**, 16 Quine St., Cranford, N. J.

▲ For more details circle **NED-921 E1** on enclosed inquiry slip ▲

TRIAL SAMPLE
will prove you can
CUT VIBRATION and NOISE
with low-cost **MB ISOMODE® PADS**

A pair of shears and a standard package of Isomode Pads... that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.

Simply cut to fit machine feet and install. No waste, no fuss, minimum down time. *Send for one-pad trial offer at discount price . . . and free literature.*

ISOMODE Division

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

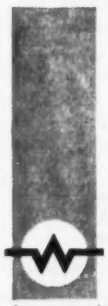
▲ For more details circle **NED-923 E1** on enclosed inquiry slip ▲

FIREROD
CARTRIDGE HEATER BY WATLOW

HOTTEST!
5 times more heat than any standard cartridge heating unit.

LONGEST LASTING!
5 to 10 times the operating life of ordinary units.

GREATEST DESIGN FLEXIBILITY!



1/5 the size for the same heat of standard cartridges.

Write for illustrated literature.

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
St. Louis 14, Mo.

▲ For more details circle **NED-924 E1** on enclosed inquiry slip ▲

For Accuracy, High Capacity, Low Maintenance

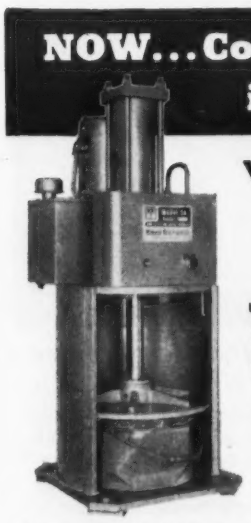
Mason-Neilan 200 Series steam reducing valves are designed to save you money through . . . ACCURACY — sensitive pilot operation insures rapid response to load requirements; unaffected by variations in inlet pressure.
HIGH CAPACITY — pilot operation and large flow passages provide large capacity, may permit use of a smaller valve, thus saving in initial cost.
LOW MAINTENANCE COST — ease of access to parts in pilot and main valve speeds up maintenance; cleaning is easy, reducing down-time.
Get all the details on the cost-saving features of Mason-Neilan 200 Series Reducing Valves. Ask your Industrial Distributor for catalog, or write.

Products that work for your profit

MASON-NEILAN
Division of Worthington Corporation
69 NAHATAN STREET, NORWOOD, MASSACHUSETTS MN1-10

▲ For more details circle **NED-918 E1** on enclosed inquiry slip ▲

NOW... Convert TRASH into $CASH
with this new

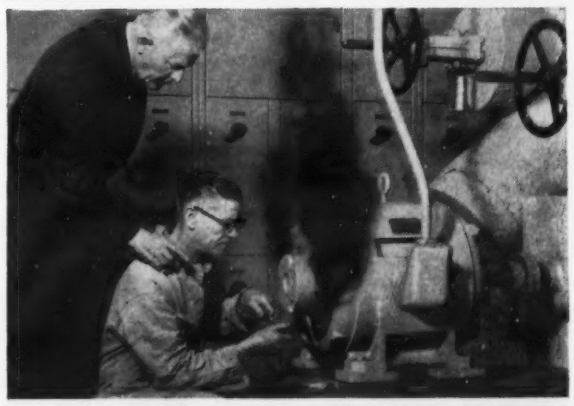


CAN RAM
push-button hydraulic CAN CRUSHER

This new CAN-RAM Crusher, the only machine of its kind, flattens heavy-gauge 5 gallon cans with a steady fully automatic cycle exerting over 12,000 pounds of pressure. CAN-RAM Crusher features a rugged hydraulic system engineered for years of trouble-free safe service. Easy-to-operate, CAN-RAM goes to work at the touch of a button... crushing cans, containers and pails including 24 gauge into a compact size. CAN-RAM reduced handling, disposal, and storage costs, and you can sell CAN-RAM-compressed cans as steel scrap... converting trash into additional cash. Manufacturers Representative inquiries invited. For more information, write to . . .

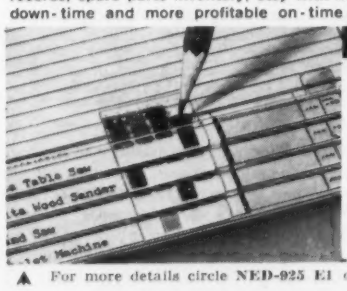
MILWAUKEE METAL PRODUCTS CO., INC.
8006 W. Florist Ave., Milwaukee 18, Wisc.

▲ For more details circle **NED-922 E1** on enclosed inquiry slip ▲



Prevent burned out motors that burn up profits

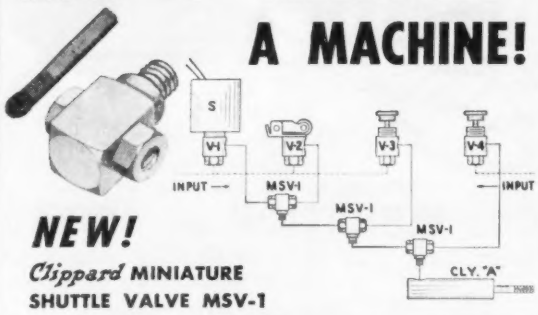
When a dry, forgotten bearing burns out a motor, it can cost thousands of dollars in lost production time. That's why profit-conscious management so often turns to ACME VISIBLE control to make preventive maintenance forget-proof. Every need of every motor and machine is visibly scheduled and signaled as shown below. Service records, cost records, spare parts inventory, stay with maintenance cards. For less down-time and more profitable on-time production, send coupon.



ACME VISIBLE
ACME VISIBLE RECORDS, INC.
3405 West Allview Drive
Crozet, Va.
Please supply more information on Acme Visible money-saving PM control.
NAME
ADDRESS
CITY ZONE STATE

▲ For more details circle **NED-925 E1** on enclosed inquiry slip ▲

HOW TO "MULTIPLEX" A MACHINE!



NEW!

Clippard **MINIATURE SHUTTLE VALVE MSV-1**

• Ever have a design problem where it was necessary to actuate one cylinder from several valves? Or a situation where different pressures had to be applied to the same cylinder for different work functions?

This is easily accomplished with new Clippard MINIATURE SHUTTLE VALVES. MSV-1 (only ¾" in size overall), which permit alternate flow from two inputs to single output.

For example, in diagram above, "V-1" is electrically operated with solenoid, "V-2" with cam follower and "V-3" with manual push button. "V-4" controls flow from higher pressure source. All valves operate cylinder "A". For each additional control valve, one additional shuttle valve is required.

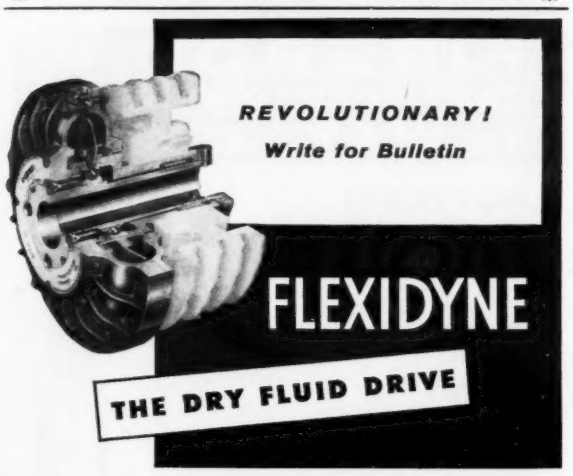
You will find the new MSV-1 useful in many multiple circuitry applications including "inching" operations and safety devices.

SEE OUR DISPLAY
Booth 1013
DESIGN ENGINEERING SHOW
Detroit, May 22-25
COBO HALL

Write for New Bulletin No. 960

Clippard INSTRUMENT LABORATORY, INC.
7378 Colerain Rd., Cincinnati 39, O. • Phone JAckson 1-4261
Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

▲ For more details circle **NED-928 E1** on enclosed inquiry slip ▲



The new way to start loads *smoothly*—to protect against shock and overload—to use smaller motors—to save power—*all without any sacrifice of efficiency at full load!* Flexidyne can mean thousands of dollars to you in equipment savings, in economical operations. From fractional to 1000 hp. Many sizes available from distributors' stocks. Write us for technical bulletin.

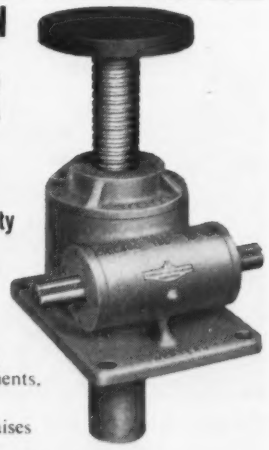
DODGE MANUFACTURING CORPORATION, 2100 Union, Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

▲ For more details circle **NED-929 E1** on enclosed inquiry slip ▲

New from WESTERN

WORM GEAR JACKS



6 Models—2 to 50 Tons Capacity

For Accurate Positioning of Loads Weighing Several Hundred Tons

- Can be used singly, in tandem or in multiple jacking arrangements.
- Functioning as components of machinery or equipment—raises or lowers loads—horizontally to push—to apply pressure—as linear actuators. SELF-LOCKING . . . NO CREEP!
- Holds heavy loads in position indefinitely when two or more jacks are tied together mechanically.
- Raise and Lower in *Exact Unison* when two or more jacks are coupled with Western Mitre Gear Boxes.
- Lifting screws made of alloy steel.
- All bearings are Timken tapered roller bearings.
- Alemite grease fittings.

Standard raise is six inches. Raises up to 24 inches available on request.

9865 *Write for further information*

WESTERN INDUSTRIES INC.
Industrial Products Division
2702 West 36th Place • Chicago 32, Illinois

▲ For more details circle **NED-930 E1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Gas Burners for Processing

Gas Appliance Service, Inc.—Typical of industrial gas equipment for heat processing described in 16-page Catalog 100 are the Furkert Gas/Airmixer for premixing of any commercial gas for brazing, soldering, flame hardening, furnaces, and atmosphere units; the G.A.S. ZigZag burner for localized heating; and standard heating units, furnaces, heaters, ovens, and air heaters.

▲ For more details circle **NED-931 E1** on enclosed inquiry slip ▲

Industrial Ceramics Guide

Saxonburg Ceramics, Inc.—20-page catalog entitled "Industrial Ceramics" describes beads, tubing, rods, swageable thermocouple tubing, end seals, castables, laboratory ceramics, and special shapes. Also given are technical data on materials, electrical and mechanical properties, design recommendations, and available facilities.

▲ For more details circle **NED-932 E1** on enclosed inquiry slip ▲

Precision Balls

SKF Industries, Inc.—How Atlas 1/32 to 2⅝-in. diameter balls are made is explained in 4-page "Ball Data Section." They are offered in chrome alloy steel, Type 440 and 329 stainless, brass, aluminum bronze, and silicon molybdenum steel. Included are engineering data on material, hardness, grades, tolerances, corrosion resistance, magnetic properties, and general information.

▲ For more details circle **NED-933 E1** on enclosed inquiry slip ▲

Torque-Tension Data for Locknuts

Elastic Stop Nut Corp. of America—18-page illustrated Design Manual 6101 includes 12 tables which list specific recommended installation values for thin and standard height UNC and UNF hex type Elastic Stop nuts. It discusses factors to be considered in selecting tightening torque; also the effects of lubricants.

▲ For more details circle **NED-934 E1** on enclosed inquiry slip ▲

Trolley Conveyors to Move Goods

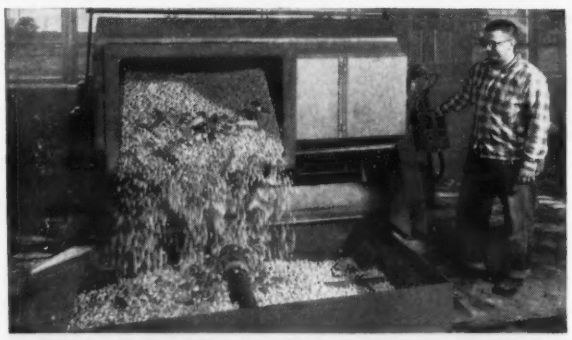
Link-Belt Co.—What a trolley conveyor can do to reduce manufacturing and handling costs is explained in 58-page illustrated Manual 2730 entitled "Trolley Conveyors." This practical guide also tells how to select the right trolley conveyor for any job. Described are various types, performance, and applications.

▲ For more details circle **NED-935 E1** on enclosed inquiry slip ▲

Decorative Prefinished Metals

American Nickeloid Co.—Actual samples of preplated metals with rich textured surfaces in diagonal, square, diamond, and horizontal crimped patterns are contained in the Crimp Metal Pak. Included is a bulletin giving data on various patterns in heavy plated copper, brass, nickel, and chromium finishes.

▲ For more details circle **NED-936 E1** on enclosed inquiry slip ▲



The Pangborn Vibratory Finishing Machine This machine makes itself useful in many ways: cleaning, descaling, radiusing, fine-finishing, burnishing or coloring. It can do all this with metals, alloys, many types of plastic and ceramic parts . . . and at speeds up to 100 times faster than conventional methods. It cleans the intricate or shielded surfaces you can't reach with barrel finishing or other means.

Available in many sizes, its standard equipment includes variable speeds and exclusive air-cushioned suspension which assures automatic leveling and amplitude control. Auxiliary equipment, media and compounds available for every need. PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Maryland.

Pangborn
OF HAGERSTOWN

▲ For more details circle **NED-937 E1** on enclosed inquiry slip ▲

Pressure Equipment Doors

United Sheet Metal Co., Biggs-United Div.—Sure-Lock 3/30 quick-opening doors for production pressure vessels are described in 6-page Bulletin Q.O.61. These doors are made in diameters from 1 to 15 ft for full vacuum to 3000 psi and temperature service from subzero to above 2000° F.

▲ For more details circle **NED-938 E1** on enclosed inquiry slip ▲

Variable Speed Belting

Manheim Mfg. & Belting Co.—Interchange Guide lists outside circumference, top width, and number of links of Manheim variable speed belt required for equivalent sizes of Dayton, Gates, and other rubber belts and Reeves wood block belts. Data are included on how to measure, install, and compute price of belts.

▲ For more details circle **NED-939 E1** on enclosed inquiry slip ▲

Fiber Facts

Taylor Fibre Co.—Basic application information and engineering data on laminated plastics and vulcanized fiber are presented in 8-page condensed 1961 Catalog. Guidance is offered engineering and design officials in selecting and applying these materials for electrical, electronic, and mechanical components.

▲ For more details circle **NED-940 E1** on enclosed inquiry slip ▲

How to Remove Dirt from Floors

G. H. Tennant Co.—The Model K4 industrial floor machine described in 4-page Bulletin 81.5 D-R is ideally suited for removing stubborn, grease-caked dirt from floors in a single pass. This self-propelled machine cleans a 16-in. wide path as it goes. It can also be used to level or score concrete, remove paint and hard deposits from concrete or wood block, and for sanding floors.

▲ For more details circle **NED-941 E1** on enclosed inquiry slip ▲

Limit Switches

General Electric Co.—A complete line of limit switches for automatic pilot control is described in 12-page Bulletin GEA-7312. Included are application guide, limit switch terminology, and selection and installation guides. Lever, rotating cam, and leverless types are covered.

▲ For more details circle **NED-942 E1** on enclosed inquiry slip ▲

Miniature Bearing Data

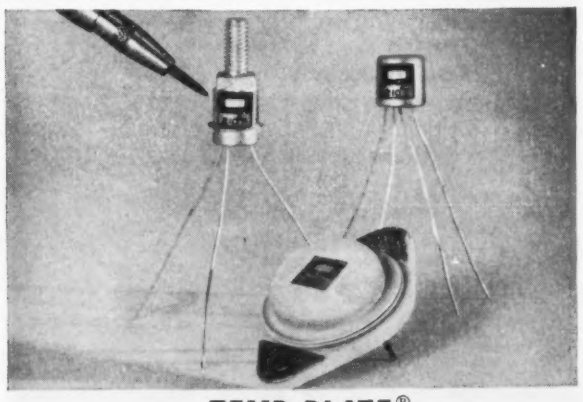
Landis & Gyr, Inc.—16-page Miniature Bearing Catalog 3E contains design and performance data on radial Filmoseal, radial Ultra-Light, radial Conrad, radial flanged, pivot, miniature roller, and special type bearings.

▲ For more details circle **NED-943 E1** on enclosed inquiry slip ▲

Surface Active Chemicals

Hodag Chemical Corp.—Written to acquaint chemical users with the products and services of this company, 20-page brochure is entitled "Surface Active Chemicals." Data are given on antifoam agents, emulsifiers, and other surface active chemicals.

▲ For more details circle **NED-944 E1** on enclosed inquiry slip ▲



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DETECTS ELECTRONIC OVERHEATING

Overheating of transistors, diodes, resistors and transformers is detected by Temp-Plate in a positive, direct manner. Simple, easy to use, irreversible, Temp-Plate is the little plastic tab that sticks to the component, turns black when the temperature reaches any desired value between 100° and 1100°F. Impervious to ambient atmosphere and production line handling, Temp-Plate is accurate to ±1%, provides for absolute indication of heat damage. Write now for descriptive literature.

TEMP-PLATE / Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

▲ For more details circle **NED-945 E1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

BUFFING BELT LUBRICANT
increases life up to 120 per cent

Improved lubricant for buffing belts is 100 per cent saponifiable and reportedly increases belt life from 20 to 120 per cent. No. 371 Polishing Lubricant keeps belt open and free-cutting at all times and goes through both alkaline cleaners and vapor degreasers. It contains no fillers and is packaged in 2½ x 8 and 2 x 12-in. cylinders. A special Grade 301 is also available for use on set-up wheels. • **American Buff Co.**, 2414 S. La-Salle St., Chicago 16, Ill.

▲ For more details circle **NED-946 E1** on enclosed inquiry slip ▲

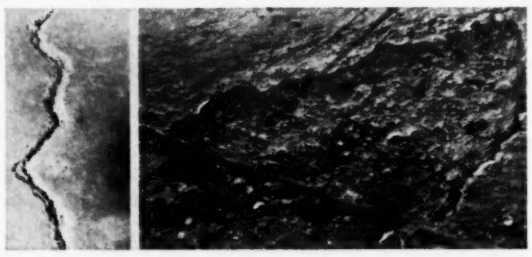
CONTACT ADHESIVE
joins laminates to other surfaces

Decorative and other laminates are easily bonded to wood, paper, plastics, and metal with Clairstick contact adhesive. It gives instantaneous tack, has coverage of 300 sq ft per gallon, and provides a permanent, elastic bond. It can be applied by brush, roller, spray, or trowel. Bond is completed with hand pressure or pinch rollers. • **St. Clair Rubber Co.**, 107 Clifford, Detroit, Mich.

▲ For more details circle **NED-947 E1** on enclosed inquiry slip ▲

FLOOR REPAIR PRODUCTS
resurfacing and crack repair types

Kwik-Set and Crack-Fix plastic floor maintenance products can be used together to rebuild a floor surface, or individually for specific repair problems. Kwik-Set,



a granular material, will repair worn or rutted areas in concete or wood surfaces, or can be used to resurface the entire floor. It is suited for industrial aisleways and ramps, loading docks, and platforms. Fine granulated Crack-Fix is used to repair cracks, expansion joints, and shallow holes in interior and exterior concrete and wood surfaces. Repaired surfaces are ready for traffic immediately. • **Revere Chemical Corp.**, 2010 E. 102nd St., Cleveland 6, Ohio.

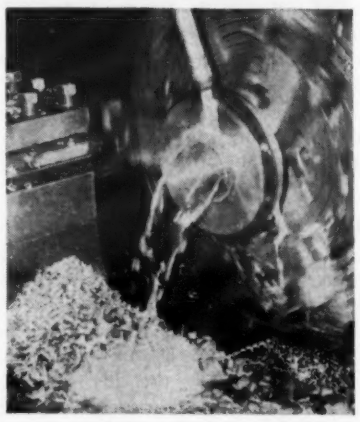
▲ For more details circle **NED-948 E1** on enclosed inquiry slip ▲

CERAMIC ADHESIVE
withstands temperature to 2600° F

After curing at 250° F, Melbond CA-100 ceramic adhesive will withstand service temperatures up to 2600° F. It bonds ceramic materials, has excellent electrical properties, has high mechanical strength, and will not disintegrate or flake during use. Having a paste-like consistency, it can also be used for coating items requiring high temperature protection. • **Melpar, Inc.**, Special Products Div., 3000 Arlington Blvd., Falls Church, Va.

▲ For more details circle **NED-950 E1** on enclosed inquiry slip ▲

LUBRICATING COOLANT
prevents corrosion on tools, work



Economical and effective even in hard water, Chem-Cool 100 lubricating coolant can be used for months without turning rancid. It is suited for all metal-working operations and prevents corrosion of tools, machines, and metal work. The coolant extends tool life, minimizes heat distortion and tool burning, and has no toxic fumes. Clarity is retained when diluted. • **National Chemsearch Corp.**, 2417 Commerce, Dallas, Tex.

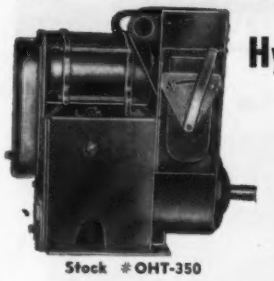
▲ For more details circle **NED-951 E1** on enclosed inquiry slip ▲

BRAZING ALLOYS
applied by air gun or syringe

Developed to promote speed and ease of application, Nicrobraz S Series brazing alloys are applicable wherever powdered alloys have been used. Alloying time is said to be reduced 50 per cent with the new form, a mixture of powder in a high viscosity vehicle. Alloys are applied by an air gun method (bottom) for production work or by manual syringe (top) for smaller jobs. Alloys are suited for applications involving high temperature service. • **Wall Colmonoy Corp.**, Stainless Processing Div., 19345 John R. St., Detroit 3, Mich.

▲ For more details circle **NED-952 E1** on enclosed inquiry slip ▲

1½ HP VARIABLE SPEED
0-350 RPM
Hydraulic Transmission



Stock #OHT-350

Brand New SURPLUS
Govt. Cost $3750.00
Save Thousands of $$$
Only $147.50 f.o.b.
COMPLETE with MOTOR
220 Volt, 60 Cy., 3 Ph., A. C.

Now own this Heavy Duty Machine at a fraction of its true value!

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Incorporates A Powerful 6-to-1 Torque Multiplier
For High Torque Applications Such As:

- Conveyors
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- Paper Machines
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- Elevators
- Winches
- Pumps
- Spring Coilers
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1½ horsepower capacity (continuous duty). Complete with totally enclosed motor, 220 volt, 60 cy., 3 ph., A.C. Output speed reversible in either direction from 0 to 350 RPM. Forward and reverse speeds can be the same or different. Speed is smooth and constant. Ideal for continuous reversing! Precise effortless speed selection. Neutral off position. Controls easily altered for remote control. Ball and Roller bearing throughout. Extremely compact and self contained; size 21½" L, 9" W, 20½" H, 200 lbs. Output shaft 1" dia. 2½" long with standard keyway. Shipped complete with full instructions and service manual.

Other motors optional at additional cost. 220/440 V., 60 Cy., 3 Ph. .....add $37.50; 220 V., 60 Cy., Single Ph. .....add $36.75

SUPPLY LIMITED! ORDER DIRECT FROM THIS AD

→ Write, wire or phone TAYLOR 9-1365 ←

ROBERTS ELECTRIC COMPANY, Dept. ND-144
849 W. GRAND AVE. • CHICAGO 22, ILLINOIS

▲ For more details circle **NED-954 E1** on enclosed inquiry slip ▲

MANY FAST'S HAVE BEEN WORKING LONGER THAN YOU

It's a fact. There are plenty of cases where Fast's Couplings have been in service 20 to 40 years. And some of our more enthusiastic engineers say a Fast's should last forever if it's properly applied, installed and lubricated. Whatever opinion you accept, you can bet Fast's Couplings will give you the same smooth-running, low-maintenance, long-lived performance that makes them the choice of more equipment manufacturers than any other gear-type coupling.

For example, Fast's Coupling No. 1347, shipped in July, 1922, is still in service—and the customer is just ordering his first spare coupling 38 years later.

KOPPERS COMPANY, INC., 705 Scott Street, Baltimore 3, Maryland.

KOPPERS **FAST'S COUPLINGS**
Engineered Products Sold with Service

▲ For more details circle **NED-955 E1** on enclosed inquiry slip ▲

air dries . . . resists corrosion
HEAT-REM H-120A
for 1200° temperatures

Heat-Rem H-120A is the ideal coating for temperatures up to 1200° F. It's easy to use . . . air dries without baking to an attractive hard aluminum coating in 6 hours . . . resists industrial fumes, most acids, salt spray and weathering.

Of extra heavy viscosity, H-120A is economical for either interior or exterior use. It is recommended for exhaust manifolds, mufflers, boilers, heat lines, pickling and boiling vats, etc.

Heat-Rem H-120A meets or exceeds government and industrial specifications. Brush, spray or dip application.

A-4066A

$10.85 PER GALLON

SPECO, Inc. "REM" PRODUCTS — Cleveland 9, Ohio

▲ For more details circle **NED-949 E1** on enclosed inquiry slip ▲

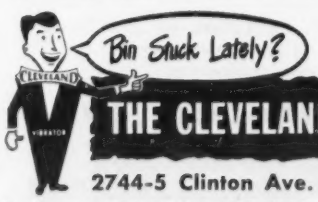
CLEVELAND ELECTRIC BIN VIBRATOR

SILENT, ADJUSTABLE VIBRATION . . .

Quiet as an electric motor, this electric vibrator delivers adjustable impact that moves materials from stubborn bins, hoppers and chutes. A pair of eccentric weights mounted on both ends of the motor shaft are easily opened or closed for changing vibratory force. Just remove the protective end bell and a bolt. Self-contained with no pulleys, Cleveland electric vibrators deliver low-maintenance, trouble-free service.

The RC electric vibrator line offers a wide choice of vibration impacts ranging up to well over a ton for heavy applications. Models are available in single or three-phase, A.C. current for operation on 110, 220, 440, or 550 volts.

Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.



For complete details, write for Catalog #11
3335-CV

THE CLEVELAND VIBRATOR CO.
2744-5 Clinton Ave. • Cleveland 13, Ohio

▲ For more details circle **NED-953 E1** on enclosed inquiry slip ▲

paging plus private 2-way intercom

New dual-function Executone units keep every man on your staff in instant contact . . . let you locate and talk with people anywhere in your plant or offices, or on the grounds . . . even in high-noise areas.

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415 Lexington Ave., N. Y. 17, N. Y.
Please send detailed information on paging and intercom for
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☐ high-noise areas Address_____
☐ outdoor areas City_____ Zone____ State____

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FAST FRICTION SAW

FOR FAST CUTTING OF STRUCTURALS—RAIL, PIPE AND BAR STOCK

These revolutionary friction saws are one-piece construction . . . need no expensive pits . . . can be moved quickly and cheaply. Coolant system keeps cut hot, blade cool . . . electronic pressure feed eliminates complicated hydraulic system . . . varies pressure as blade moves through different thicknesses. Steel safety shroud reduces noise level . . . stops flying sparks.

FREE BROCHURE
TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

For more details circle NED-957 E1 on enclosed inquiry slip

NEW ONE-MAN POWER OPERATED DRUM LIFT

FOR CONTROLLED POURING OF

• ACIDS • PLASTICS
• CAUSTICS
• VISCOSE MATERIALS

LIFTING CAPACITY 750 POUNDS

Developed by demand in industry where the need has arisen to lift drums and empty contents from heights of 7' to 8', the new Sterling Fleischman Power Operated Drum Lift will raise drum to 95" from floor to bung in just 30 seconds. Easily maneuverable in cramped quarters and ideal for operation in areas with a minimum of headroom. These units are available in AC or battery operated Power Packs. Design features assure self-locking control at any pouring angle and use with either steel or fibre drums. For complete details on power operated or foot operated Sterling Fleischman Hydraulic Drum Lifts, write: Dept. NED-5

STERLING FLEISCHMAN COMPANY
P.O. Box 94 Broomall, Pa.

For more details circle NED-958 E1 on enclosed inquiry slip

Handiest TOOL IN THE PLANT!

NEW BULLETIN Gives all the facts. Ask for new Bulletin

CLEMENTS Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS ...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | CLEMENTS MFG. CO.
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-959 E1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Tapping for Wire Thread Inserts

Heli-Coil Corp.—Procedures for drilling and tapping aluminum, magnesium, steel, and thermoplastics, as well as other plastics, to receive Heli-Coil wire thread inserts are described in 12-page Bulletin 765. A nomograph enables the reader to easily determine the tapping speed and lubricant for a given size of tapped thread in a wide range of materials.

For more details circle NED-960 E1 on enclosed inquiry slip

Wire & Wire Products

Columbia Wire & Supply Co.—40-page Catalog 109 describing line of wire and wire products for the electrical and electronic industries, features a new section of industrial listings of a variety of products. Catalog serves both as a purchasing reference and a reliable information guide.

For more details circle NED-961 E1 on enclosed inquiry slip

High Frequency Electric Tools

Thor Power Tool Co.—Grinders, sanders, polishers, impact wrenches, screwdrivers, nutsetters, drills, reamers, and balancers are among the high frequency portable electric tools reviewed in 32-page Catalog 62. It presents an analysis of high frequency tools with a capsule report on the advantages of using 180, 360, or 400-cycle tools for specific applications.

For more details circle NED-962 E1 on enclosed inquiry slip

Stamped Gears, Sprockets & Ratchets

Winzeler Mfg. & Tool Co.—Detailed tables in 16-page Catalog 6011 give all critical specifications for hundreds of sizes of stamped gears, segments, internals, ring gears, crown gears, sprockets, and ratchets. Data are included on center hole shapes, tooth parts, and diametral pitch rules and spur gear formulas.

For more details circle NED-963 E1 on enclosed inquiry slip

Mold Release Agents

General Electric Co., Silicone Products Dept.—Reliable release, high temperature stability, rapid and easy spreading, and chemical inertness are among the desirable properties listed in 12-page technical Data Book S-13 on G-E silicone release emulsions, fluids, and compounds. This guide aids in selecting the proper release agent for metalworking applications.

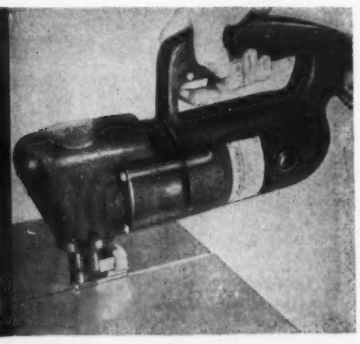
For more details circle NED-964 E1 on enclosed inquiry slip

Versatility in Rubber

Roth Rubber Co.—Under the above title, a 12-page booklet offers an economical solution to the design and manufacturing problems involved in custom rubber products. Detailed are the broad abilities of rubber to absorb sound and vibration; resist high voltage, solvents, oils, and chemicals; and solve production problems.

For more details circle NED-965 E1 on enclosed inquiry slip

CUT METAL FAST, WITHOUT DISTORTION USE MODERN NIBBLERS



They cut 10 gage stainless, 8 gage mild steel, 7 gage aluminum and brass without bending or curling the metal.

They cut 6" (and smaller) radius.

Models are available for cutting corrugated metal, fibre glass and plastic without cracking or chipping. Other models for cutting wire netting, irregular rods, gaskets, etc.

A MODEL FOR CUTTING ¼" COLD ROLLED STEEL AVAILABLE SOON!

Write, wire or call
MODERN MFG. CO., INC.
680 Davisville Road, Willow Grove, Pa.
Phone: OLdfield 9-4820

For more details circle NED-966 E1 on enclosed inquiry slip

Conductor Stringing Blocks

Sherman & Reilly, Inc.—Spacer type aerial cable blocks, bundle conductor stringing blocks, lightweight aluminum blocks, and helicopter stringing blocks are among conductor stringing equipment shown in 36-page 1961 catalog. Dimensional and working load information is provided.

For more details circle NED-967 E1 on enclosed inquiry slip

Tubing Fabricating Tools

Parker-Hannifin Corp., Parker Fittings & Hose Div.—Catalog 4390 contains 24 pages of information on such tube fabricating equipment as tube cutters, flarers, and benders. Tube bending and flaring instruction section shows and describes step-by-step procedures in tube fabricating.

For more details circle NED-968 E1 on enclosed inquiry slip

Mechanical Convection Ovens

Blue M Electric Co.—Laboratory/production, aging, miniature batch, hazard-safe, five-drawer, and gravity ovens are among mechanical convection ovens reviewed in 12-page Bulletin 1960. Other units covered include Testonic environmental cabinets, incubators, sterilizers, conditioning cabinets, and refrigerated baths.

For more details circle NED-969 E1 on enclosed inquiry slip

Computer Characteristics Chart

Latest edition of the "Computer Characteristics Chart" not only covers ten new computer systems and numerous small revisions, but such information as rental prices and the month and year of the first actual or planned installation. Revisions will be published quarterly, and the latest chart provides facts about 55 general-purpose, U. S. built computer systems. Single issues at $1.50, or annual subscriptions at $5 are available through Charles W. Adams Associates, Inc., 142 Great Rd., Bedford, Mass.

For more details circle NED-970 E1 on enclosed inquiry slip

Chain Selection Chart

Foote Bros. Gear & Machine Corp.—Handy chart simplifies the selection of recommended chain pitches for power transmission applications. Suited for wall mounting or filing, chart has design horsepower and speeds listed on the two axes for quick visual selection.

For more details circle NED-971 E1 on enclosed inquiry slip

Automatic Nailers

Spotnails, Inc.—Fasteners from ⅜ to over 2 in. long and over 100 guns to drive them are subject of 16-page catalog. Described are staples, T-nails, finishing nails, and pins, as well as their applications. Hand and power automatic drivers are covered.

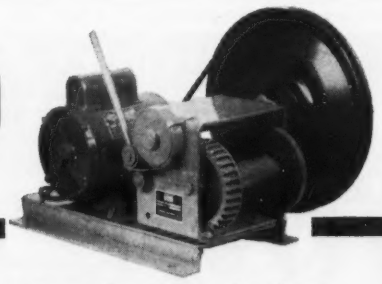
For more details circle NED-972 E1 on enclosed inquiry slip

Rivets & Automatic Setting Machines

Judson L. Thomson Mfg. Co.—Typical rivet proportions, representative applications for various types of rivets, and brief descriptions of automatic rivet setting machines make up condensed 4-page brochure.

For more details circle NED-973 E1 on enclosed inquiry slip

Call on THERN



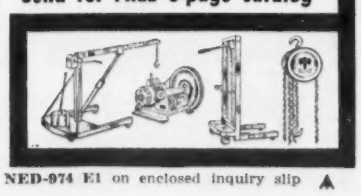
. . . for the Winch that meets Your Need!

Simple in design, the THERN line of spur gear and worm gear meets every need for smooth, dependable winching. Load capacities from 500 lbs. up to 5000 lbs! Specify THERN winches with confidence—for your plant service needs . . . or for component part applications.

- 22 fully guaranteed models; hand operated or electric
- Utility winches—for farm, marine and general use
- Worm Gear Winches—to hold the load at any position
- Heavy Duty Winches—all steel industrial type; 2½ tons capacity
- Complete line of cable and tackle accessories

Send for FREE 6-page catalog

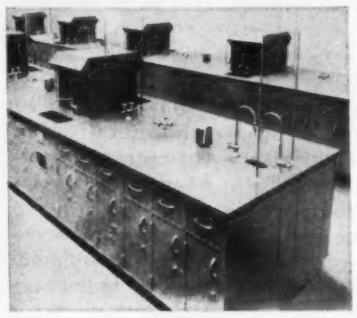
Thern MACHINE COMPANY
3800 West 4th St.
Winona, Minnesota



For more details circle NED-974 E1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

LAB TABLE SURFACING
has ceramic-like mineral glaze

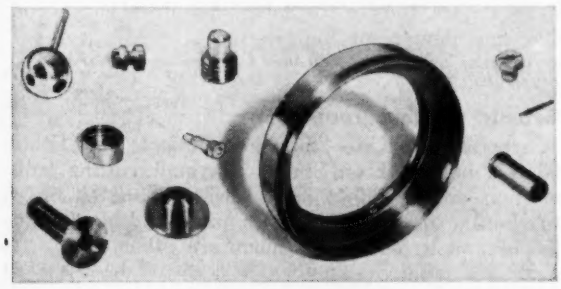


Exceptional chemical and stain resistance is exhibited by Colorceran laboratory table top surfacing material. The inorganic material incorporates a ceramic-like mineral glaze surface and is applied to Colorlith asbestos-cement base sheet. Material has high structural strength and good machinability, and resists thermal shock, abrasion, and scratching. Available only in Surf Green, it is intended for service where continuous exposure to strong acids and solvents, and chemical and bacteriological staining agents are encountered. • **Johns-Manville**, 22 E. 40th St., New York 16, N. Y.

▲ For more details circle **NED-975 E1** on enclosed inquiry slip ▲

FREE-MACHINING STAINLESS
low sulphur content minimizes nonmetallic stringers, inclusions

Greatly improved machinability is exhibited by Uniloy 303MA, a new free-machining chromium-nickel stainless steel which is available in all popular round,

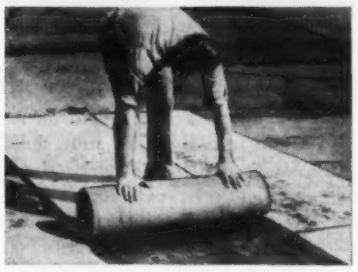


square, and hexagon bar sizes, as well as forging billets, forgings, plate, sheet, strip, and wire. Combination of aluminum and sulphur in the alloy makes possible a reduced sulphur content which results in a clean steel with few nonmetallic stringers and inclusions.

Compared with AISI Type 303, this new stainless alloy can be machined up to 50 per cent faster, resists edge splitting in rolling operations, and can be successfully roll threaded and electropolished to a very high luster. It can be satisfactorily arc, flash, or percussion stud welded and brazed and is 25 times more corrosion resistant than Type 303. Photo shows various screw machine products made of the alloy. • **Universal-Cyclops Steel Corp.**, Bridgeville, Pa.

▲ For more details circle **NED-976 E1** on enclosed inquiry slip ▲

GLASS ROOFING FABRIC
forms new roof over the old



Used in conjunction with Rufferseal silicone liquid roof coating, Monoglas glass fiber roofing fabric forms a monolithic surface that becomes an integral part of the original roof. Material weighs only 8 lb per sq ft, forms a seamless, watertight surface, and will not blister or curl. Fabric is supplied in 42-lb rolls for covering 540 sq ft. It can be applied by unskilled personnel. • **Monroe Co.**, Dept. MON, 10711 Quebec Ave., Cleveland 6, Ohio.

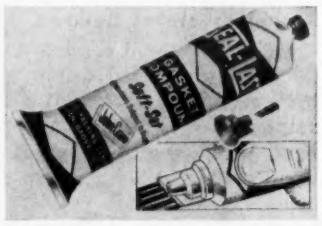
▲ For more details circle **NED-978 E1** on enclosed inquiry slip ▲

SYNTHETIC RUBBER ADHESIVE
allows parts assembly in 2-5 min

Particularly effective for bonding porous materials such as urethane foam to metal, fast-drying Bostik 1142 synthetic adhesive allows parts assembly within 2 to 5 min after application. Successful uses include bonding of insulation to undersides of auto hoods, rubber gaskets to metal doors, plastic panels to inside walls, and felt and rubber gaskets to vacuum cleaners. It meets MIL-A-1154-A and MIL-A-5092-A, Type II and will adhere to metals, glass, neoprene, GR-S, Buna-N, phenolic, urea, polystyrene, glass fiber, felt, cork, Masonite, leather, nylon, sponge urethane, sponge rubber, and enameled surfaces. Two-way dry-stick, two-way wet-stick, and two-way solvent-activation methods of application can be used. • **B. B. Chemical Co.**, Bostik Dept., 784 Memorial Dr., Cambridge 39, Mass.

▲ For more details circle **NED-979 E1** on enclosed inquiry slip ▲

GASKET COMPOUND
for fluid and gas services

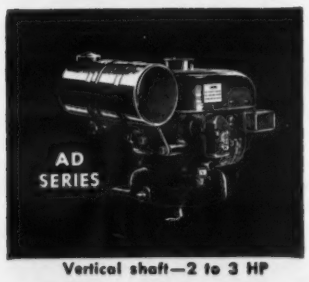


Leakproofing; repairing broken gaskets; building up damaged, misaligned, or warped flanged surfaces; or use as a gasket substitute are applications for Seal-Last gasket compound. Temperature and pressure ranges are −65 to 400° F and 5000 psi. The easy-to-apply product is usable with water, steam, oil or water-based hydraulic fluids; LP and natural gases; petroleum products; mild corrosives; and many chemicals. Two types are offered: Soft-set type for connections that must be periodically disassembled, and hard-set variety for permanent installations. Both types come in 1½, 3, and 11-oz tubes. • **Crane Packing Co.**, Dept. ND-5, 6400 Oakton St., Morton Grove, Ill.

▲ For more details circle **NED-980 E1** on enclosed inquiry slip ▲

ANY PRODUCT IS BETTER WITH CONTINENTAL RED SEAL POWER

Horizontal Shaft. Also available with 6:1 gear reduction (AR Series)—2 to 4 HP



Vertical shaft—2 to 3 HP

• • • because Continental air-cooled engines are built up to a standard of excellence, not down to a price. Their rugged design and construction assures long dependable service with minimum down-time. Backed by a world-wide service organization.

Continental Motors Corporation
INDUSTRIAL AIR-COOLED ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN
CONTINENTAL MOTORS — Power for the Nation — AMERICA'S STANDARD

▲ For more details circle **NED-977 E1** on enclosed inquiry slip ▲

A DAY'S WORK IN 50 MINUTES

Homestead's Multi-Job Washer cleans fork lift trucks fast at the American Greetings Corporation, Cleveland.

Now cleaned by hot, high pressure solution in 50 minutes with the Multi-Job Washer, these trucks used to be out of service for a full day. Costs only $325, but the Multi-Job Washer cleans like a million! Industrial clean-up problems? Write or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division, Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd., 517 Jarvis St., Toronto 5, Ontario. C.S.A. Approved)

▲ For more details circle **NED-981 E1** on enclosed inquiry slip ▲

David Round HOISTING EFFICIENCY
...especially in work areas cramped for headroom

MODEL 55 CABLE TYPE ELECTRIC Hoist and Trolley
Write for Bulletin 119-EH

Cable-Aire PNEUMATIC HOIST
Meets requirements for operation in hazardous atmospheres
Write for Bulletin 300-CA

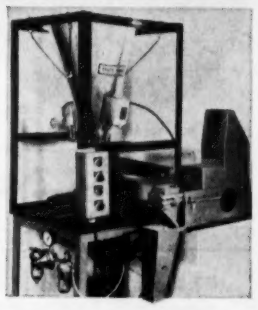
Order from your Distributor
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

▲ For more details circle **NED-982 E1** on enclosed inquiry slip ▲

Exact Weight SCALES Precision Automatic
NET WEIGHING MACHINES

High-accuracy weighments, 1 to 500 grams



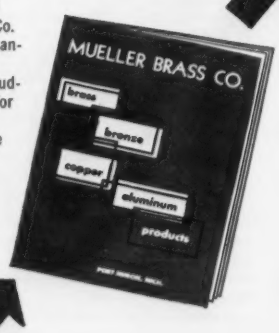
Exact Weight Precision Automatic Net Weighing Machines offer accuracies of 1/10 gram on quantities below 10 grams and one percent accuracy on quantities of 10 grams and above. Machines handle practically all types of loose, free-flowing granular solids. Models are available with capacities from 50 to 500 grams . . . fully enclosed for protection against contamination, and as a safety factor. Write for Bulletin 3363.

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.
BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle **NED-983 E1** on enclosed inquiry slip ▲

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



314

Please send me Mueller Brass Co. Manual No. FM 3017.
Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

FOR HEAT TRANSFER . . . FINS THAT CAN'T COME OFF

▲ For more details circle NED-988 E1 on enclosed inquiry slip ▲

7 Types of HOBBS Controlled Tension Winders

Check the Type YOU Need

☐ 1. STANDARD HOBBS-ALQUIST WINDER. Preset tension is automatically maintained through the torque-speed characteristic of a constant horsepower A.C. motor. The latter slows down as the diameter of the roll increases. Its torque output increases proportionally, maintaining essentially constant H.P. — the equivalent to constant tension. May be stalled 100%. 220 or 440 volt operation. Roll buildup depends upon material being wound. Also supplied for tapered tension. Ratio of speed change and diameter buildup as high as 1:30.

☐ 2. HOBBS-ALQUIST WINDER WITH SYNCHRONIZATION (NTJ). Preset tension maintained during frequent speed changes through a 3-phase synchronizing generator, driven by main machine. Speed of generator varies with that of main machine. Frequency of output current and speed of motor varies accordingly, resulting in essentially constant tension. Unit has higher ratio of speed change and diameter buildup than standard unit, a ratio of 1:100 being obtained on some material.

☐ 3. HOBBS-APF PROGRESSIVE FRICTION WINDER. Preset tension automatically maintained with extreme accuracy, during a roll buildup of 8:1, through a series of overriding friction clutches running in oil. Driven from the main machine, winder changes speed in proportion and still maintains constant tension. Required torque increase is sensed directly from the web (no dancer rolls).

☐ 4. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITH DC MACHINE DRIVE. Preset tension automatically maintained (with accuracy of ±2% over roll buildup of 8:1, or even 10:1) by controlling the field current through a saturable reactor. Strength of the field is automatically adjusted to hold the armature current constant for any tension setting.

☐ 5. HOBBS DC FIELD CONTROL WINDER — WITHOUT DC MACHINE DRIVE. For situations where synchronization is not necessary. Except for absence of synchronization, winder operates as above. An independent adjustable DC supply is provided for the automatic field control.

☐ 6. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITHOUT DC MACHINE DRIVE. Synchronized winding characteristic is as described in paragraph 4. However, the armature voltage is automatically controlled by a signal from a tach generator on the main machine. This operates through a magnetic amplifier and saturable reactor circuit.

☐ 7. HOBBS DC SPEED CONTROL WINDER. For use when ranges of speed, width and diameter are beyond the capacity of a tension control winder. This unit provides synchronization and near zero constant tension. A dancer roll controls a transducer, regulating the armature voltage of a DC shunt motor, thus determining the output speed of the motor. Static control achieved with a saturable reactor.

Check the type of Hobbs winder most suitable for YOU and ask us to figure on your requirements.

If you don't know, tell us your problem and ask us to make recommendations.

HOBBS Manufacturing Company
41E Salisbury Street, Worcester 5, Mass.
Branch Offices & Representatives in Irvington, N. J., Chicago, Cleveland, Greenville, S. C., Toronto, Canada, Louisville, Ky. and other principal cities.

609-S

WINDERS • HAND & POWER SHEARS • SLITTERS & REWINDERS • DIE PRESSES

▲ For more details circle NED-989 E1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Valves & Fittings

Often referred to as the "Bible of the Valve and Fittings Industry," 464-page Catalog 60 is a fully indexed reference on valves, fittings, and related technical data. This edition has an enlarged metals and materials section, and it includes for the first time product weights, ASTM metals classifications, capacity tables for safety and relief valves, and government specifications for bronze and iron valves. This reference is available only by writing on your company letterhead to Crane Co., 300 Park Ave., New York 22, N. Y.

▲ For more details circle NED-990 E1 on enclosed inquiry slip ▲

Adhesives, Coatings & Sealers

Minnesota Mining & Mfg. Co., Adhesives, Coatings & Sealers Div.—54-page catalog lists, in numerical form, Military specifications, specification definitions, intended applications, and the corresponding 3M adhesive, coating, or sealer that meets these specifications.

▲ For more details circle NED-991 E1 on enclosed inquiry slip ▲

Oilless Bearings

Arguto Oilless Bearing Co.—Arguto-MP is a self-lubricating metal-plastic bearing combining high speed and load capacities. Its operating range is −270 to 375° F. Twelve-page illustrated Catalog 511 lists standard size cylindrical and standard flange bearings made of the material. Dimensional tables are included.

▲ For more details circle NED-992 E1 on enclosed inquiry slip ▲

All-Purpose Lubricant

Ore-Lube Co.—Bulletin K-385 discusses Ore-Lube all-purpose lubrication. Specifications are given on various greases and oils which contain a stable dispersion of molybdenum disulfide. Lubricants prevent galling, freezing, rust and corrosion of bearings at pressures over 100,000 psi.

▲ For more details circle NED-993 E1 on enclosed inquiry slip ▲

Designing Metal Bellows

Metal Bellows Co.—Extensive design and application data on welded diaphragm bellows are contained in 8-page Bulletin 25-261. Eight sections are introduction, basic diaphragm contours, applications for basic contours, illustrations, definition of terms, attaching bellows, explanation and use of design curves, and bellows materials.

▲ For more details circle NED-994 E1 on enclosed inquiry slip ▲

Checking Amplifier Electron Tubes

Amperex Electronic Corp.—The Computa-Guide is a graphic aid for quickly determining the performance of RF doublers and triplers as well as straight-through amplifier electron tubes. Imprinted on durable plastic, this guide is supplemented by an instruction book which includes hints and shortcuts to enable the engineer to use the guide to fullest advantage.

▲ For more details circle NED-995 E1 on enclosed inquiry slip ▲

Descaling & Stripping Chemicals

Fidelity Chemical Products Corp.—Technical data and directions for use of a variety of industrial chemicals are given in comprehensive catalog. Covered are bright dips and descalers for high nickel alloys, stainless steels, cold rolled steels, copper and brass alloys, and other metals. Chemical wire strippers, stop-offs for plating and painting, and paint strippers are also included.

▲ For more details circle NED-997 E1 on enclosed inquiry slip ▲

Multi-Spindle Automatic Applications

Warner & Swasey Co.—Metal cutting jobs run on W&S Multi-Spindle automatics are illustrated, complete with all technical details, in 64-page "Job Portfolio." Each job is illustrated with dimensioned line drawings and complete setup sheet data. Jobs were performed on 1¼-in. six-spindle, 2¼-in. five-spindle, and 1¾-in. five-spindle bar automatics, as well as on a 6-in. five-spindle chucking automatic.

▲ For more details circle NED-998 E1 on enclosed inquiry slip ▲

Slackline Cableways

Sauerman Bros., Inc.—Catalog C contains 20 pages of information on how deep-digging slackline cableways are used to recover sand and gravel deposits, clean river channels and settling ponds, excavate, and haul bulk materials. Technical and application data are included.

▲ For more details circle NED-999 E1 on enclosed inquiry slip ▲

Making Instrument Air Pure

Wilkerson Corp.—Circular 1040 contains 8 pages of data on filters and cleaners which make ordinary compressed air so pure that it can be used for operating precision pneumatic instrument. Also detailed are air regulators, remote controls, lubricators, gages, controls, and dew point indicators.

▲ For more details circle NED-1000 E1 on enclosed inquiry slip ▲

Ceramic Cutting Tools

Carborundum Co.—28-page technical File Folder 960 is a handbook on Stupalox ceramic cutting tools. Selection and use data on throwaway inserts, heavy duty button inserts, solid inserts, unground blanks, single point tools, and tool holders are presented.

▲ For more details circle NED-1001 E1 on enclosed inquiry slip ▲

Metalworking Machines

Di-Acro Corp.—Benders, rod parters, spring winders, leaf brakes, press brakes, shears, notchers, rollers, and punch presses as well as a complete range of tools and accessories are described in 32-page Catalog 61. These hand and power metal fabricating machines and tools are detailed, and prices are given.

▲ For more details circle NED-1002 E1 on enclosed inquiry slip ▲

How to Operate & Maintain a Welder

Federal Machine & Welder Co.—Service Manual 1-60 is a detailed guide to the installation, starting, lubrication, and maintenance of Federal spot, seam, and other electric welding machines.

▲ For more details circle NED-1003 E1 on enclosed inquiry slip ▲

HIGHER COMBUSTION EFFICIENCY! LOWER MAINTENANCE COSTS!

NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE

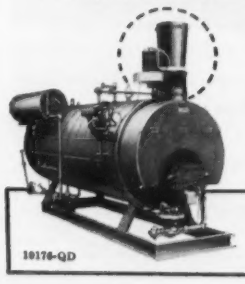
PERFECT DRAFT-CONTROL BY Quickdraft

★ EXTREMELY HIGH NEGATIVE PRESSURES
★ ACID RESISTING FINISHES
★ HIGHLY EFFICIENT WITHOUT CHIMNEY

Patents
U.S. 2,722,372 and 2,855,874
British 802,920
Canadian 593,817
Other patents pending

FOR INDUSTRY . . . Now you can boost the combustion efficiency of your boilers, regardless of the fuel you use. Quickdraft power-draft units provide instant controlled draft and completely remove all combustion, corrosive and noxious fumes at high temperature without passing them through the blower and motor. Maintenance costs are drastically reduced. Specify a Quickdraft unit to meet your particular requirements from a wide selection of various sizes.

FOR INSTITUTIONAL AND COMMERCIAL BUILDINGS . . . Quickdraft eliminates costly, tall and unsightly stacks. Vent incinerators, heating plants and water heaters at roof level . . . safely and efficiently.



10176-QD

One of many actual installations with or without chimney.

FOR CORROSIVE SERVICE

All Quickdraft units are available in standard acid resisting vitreous enamel, 316 stainless steel, carpenter 20 rigid plastics (P.V.C), and with plastic or Fiberglas coatings.

Write for QUICKDRAFT ENGINEERING DATA on your letterhead . . . today

Quickdraft CORPORATION
P. O. Box 87-L, Canton 1, Ohio

MANUFACTURERS OF ALL TYPES OF MATERIAL HANDLING UNITS WITH EXTREMELY HIGH VELOCITIES.

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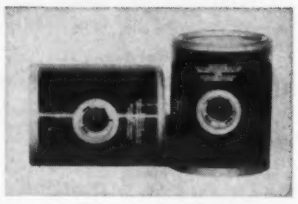
NEW MATERIALS AND PROCESSES

REINFORCED PLASTIC TUBING
centrifugally cast to 93-in. length



Glass fiber reinforced plastic tubing is now centrifugally cast in any desired wall thickness to lengths up to 93 in. and in 10, 12.75, and 15 in. OD. Ceramic, plastic, or metal inserts and closures can be integrally molded in the tubes, or added subsequent to casting. Hard external surface has a 12 to 14-microinch finish, and density is comparable to that of magnesium. Tubes are light, strong, corrosion resistant, and are unaffected by long exposure to oil, grease, water, solvents, and most chemicals except concentrated acids and alkalies. They withstand low temperatures, and maximum heat limit is in excess of 300° F. Plastic bonds to aluminum with tensile shear strength of over 2500 psi. Picture shows warhead sections from an underwater device. • **Clevite Corp.**, Clevite Ordnance Div., 540 E. 105th St., Cleveland 8, Ohio.

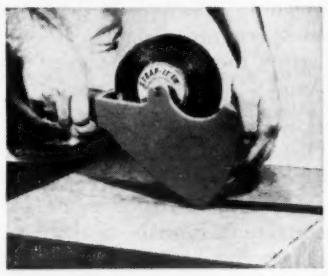
▲ For more details circle **NED-1004 E1** on enclosed inquiry slip ▲

ALUMINUM ETCH
powder is mixed with water

Irritating spray-up of alkali is reportedly eliminated in this nonsludging Chemclean No. 911-F aluminum etch. It can be used safely in enclosed areas without exhaust system. Personnel need not wear masks. This alkaline powder is used in ratio of 4 to 8 oz per gallon of water. It leaves the surface of treated aluminum with a white fine-grain etched surface. • **Chemclean Products Corp.**, 15-08 121st St., College Point 56, N. Y.

▲ For more details circle **NED-1005 E1** on enclosed inquiry slip ▲

STRAPPING TAPE DISPENSER
holds up to 120-yd by 2-in. tape



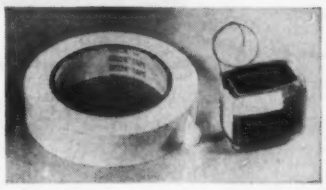
Strap-It 4W strapping tape dispenser is a portable, hand-operated unit that dispenses, applies, wipes down, and cuts up to 2-in. wide tape in one operation. Balanced to minimize worker fatigue, it is made of cast aluminum. A surgical steel blade with shear cutting action cuts any tape backing cleanly. Dispenser holds up to 120 yd of cloth, film, paper, or foil tape. After desired length is dispensed and cut, a free end remains as a starter for the next application. • **Permacel**, New Brunswick, N. J.

▲ For more details circle **NED-1006 E1** on enclosed inquiry slip ▲

Representatives and Distributors in principal Industrial areas. Ask for a Severance catalog today!

▲ For more details circle **NED-1007 E1** on enclosed inquiry slip ▲

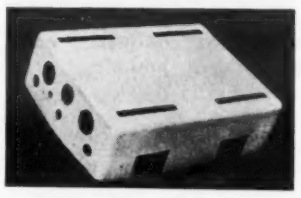
GLASS CLOTH TAPE
quick curing thermosetting type



Motor construction and repair and manufacture of coils, relays, solenoids, transformers, and other electrical and electronic equipment are applications for No. 7020 thermosetting glass cloth tape. It has a pressure-sensitive thermosetting resin adhesive that cures in ½ hr at 350° F. High tack, high initial adhesion, and resistance to solvents, abrasion, aging, and chemicals are characteristics of the Class B electric insulating tape. • **Mystik Adhesive Products, Inc.**, 2635 N. Kildare Ave., Chicago 39, Ill.

▲ For more details circle **NED-1008 E1** on enclosed inquiry slip ▲

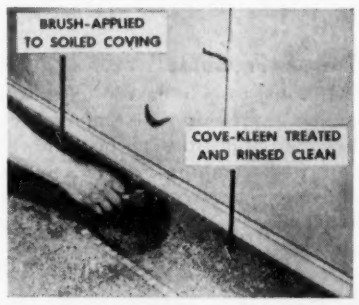
METAL UNDERCOATING
improves durability of metallic coat



Vacuum deposited gold and aluminum coatings are improved in durability and gloss by prior spray application of a modified silicone undercoating. It provides a smooth, adherent surface for the heat-reflective metallic coating and acts as a barrier to prevent diffusion of coating metal into the base metal. Other benefits include higher resistance of metal coat to weather, solvents, chemical, and high heat, even furnace treatment at 700° F. • **Swedlow Inc.**, 6986 Bandini Blvd., Los Angeles 22, Calif.

▲ For more details circle **NED-1009 E1** on enclosed inquiry slip ▲

COVING & MOPBOARD CLEANER
penetrates accumulated soil and wax



Gelatin-consistency Cove-Kleen cleaner is applied by brush to cove surfaces, thereby forming its own poultice. Developed for use on terrazzo, vitreous, and plastic tile coving and mopboards, it penetrates accumulated soil and wax in a few minutes, after which the loosened soil is rinsed off with clean water. Stained or discolored aluminum surfaces are restored to their original luster without scouring. The concentrated emulsifying product also cleans stained and fume-discolored factory windows. Harmless to any washable surface and to the skin, it is packaged in 55-gal drums and 2½ and 5-gal pails. • **Hadco Corp.**, Center & Spruce Streets, Cleveland 13, Ohio.

▲ For more details circle **NED-1010 E1** on enclosed inquiry slip ▲

Hints on fluorescent starter selection

G-E STARTERS GIVE YOU SPECIAL PROTECTION AGAINST SHOCKS

General Electric puts insulating liners in its fluorescent starters, to protect maintenance people against the slightest chance of a shock. The liners prevent inside elements from touching and charging the outside metal can — a possibility in unlined starters if they are mistreated or dropped.

For extra safety — use G-E starters. And to get helpful starter ideas, ask your G-E distributor for the "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, R. I.

GENERAL ELECTRIC

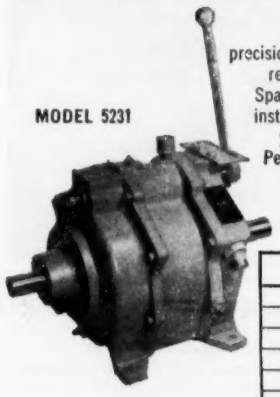
▲ For more details circle **NED-1011 E1** on enclosed inquiry slip ▲

for QUICK-AS-A-WINK-
PERMANENT IDENTIFICATION
Every Material... Every Application!

Markal®
Paintstik MARKERS
Permanent · Fadeproof · Weatherproof
16 Types To Serve You!
ON EVERY SURFACE, marking's easy and lasting when you use Markal Paintstik Markers. No matter whether it's hot or cold, dry or wet or oily—there's a specific type to do the job on metals, wood, plastic, rubber, glass, ceramic, any other surface. To be sure, insist on Markal for your marking requirements.
HOT—Choice of Markal Markers for temperatures high as 2400°F.
COLD—Choice of Markal Markers for temperatures low as —50°F.
MARKAL—*The Mark of Quality*
MARKAL CO. • 3053 West Carroll Avenue • Chicago 12, Illinois
WRITE TODAY for free Markal Catalog. If you have a marking problem, send details.

▲ For more details circle **NED-1012 E1** on enclosed inquiry slip ▲

HOT-SHIFT TRANSMISSIONS



S-N Reversing Transmissions have precision-designed features that meet your requirements for power transmission. Space-saving single units—Smooth and instant reversing under full load—Gives you maximum flexibility of design—Performance-proven—8 HP and 28 HP models available.

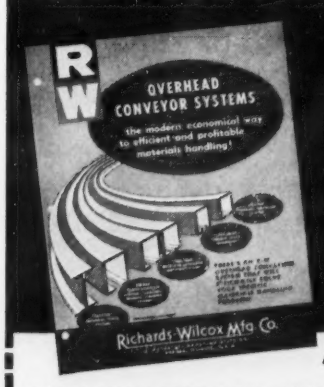
2 FORWARD SPEEDS, REVERSE, NEUTRAL, REDUCTION

SPECIFICATIONS	
Reduction Forward	1.97:1 & 3.34:1
Ratio Reverse	3.37:1
Power up to	28 HP
Max. Input Torque	1000 in. lbs.
Max. Input Speed	2400 PRM
Dimensions Long	15 11/16"
Dimensions Wide	14"
Dimensions High	14¾"

Write for technical literature:
SNOW-NABSTEDT
The Snow-Nabstedt Gear Corporation
Hamden, Connecticut
TRANSMISSION SPECIALISTS FOR OVER HALF A CENTURY

▲ For more details circle **NED-1013 E1** on enclosed inquiry slip ▲

NEW BULLETIN
DESCRIBES R-W OVERHEAD CONVEYING SYSTEMS



. . . provides comprehensive data on the complete line of R-W Overhead Conveying Systems — the modern, efficient way to profitably solve your specific materials handling problem.

MAIL COUPON TODAY!
RICHARDS-WILCOX MFG. CO.
435 THIRD STREET • AURORA, ILLINOIS
Please send, without obligation, my free copy of BULLETIN F-211
NAME
FIRM
ADDRESS
CITY STATE

▲ For more details circle **NED-1014 E1** on enclosed inquiry slip ▲

Don't let automation troubles get you down! . . . use our New Cycl-Flex for TIME CONTROL functions. Should your automatic controls fail for any reason, you can trace your trouble by plugging-in a spare timer. Movement of the TIME pointer indicates whether trouble is in the input or the output circuits.

Write for Bulletin 125 or call your local Eagle Representative. He's listed in Sweet's Product Design File, Section 7d, or in Thomas Register.

SPECIFICATIONS • 10 sec. to 60 hr. dial • 2 instantaneous switches • 2 delayed switches • 12 terminals • Resets in 1/3 sec. Mounts in 3 1/8" dia. hole

EAGLE SIGNAL COMPANY • Moline, Illinois
INDUSTRIAL DIVISION
A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY

▲ For more details circle **NED-1015 E1** on enclosed inquiry slip ▲

FREE FROM STEVENS!

Handy Metal Finishing Supplies and Equipment
Check List Helps You Keep Better Inventory Control

Here's a quick visual method of checking safe minimum stock requirements on metal finishing supplies and equipment required for normal plant operation. In addition, this Stevens wall chart provides space to record the most economical minimum stock order for each required item. It will save you time when ordering and help eliminate downtime due to material shortages.

Stevens carries a complete line of top quality metal finishing supplies and equipment at conveniently-located warehousing points across the country. Write for this chart, then let your Stevens Representative help you establish a better method of inventory control.

frederic b. STEVENS, inc.
DETROIT 16, MICHIGAN

▲ For more details circle **NED-1016 E1** on enclosed inquiry slip ▲

New
Sonic Energy Cleaning Systems

REDUCED INITIAL COST
25% less cost

LIFETIME WARRANTY
on new Omnimite® transducer

LESS FLOOR SPACE
up to 40% less

SYSTEM INTEGRATION
improved filter, rinse & dryer

MAXIMUM RELIABILITY
proven design—field tested

RESTYLED CABINETS
for maximum adaptability

IMPROVED EFFICIENCY
compact power generation

From Bendix . . . pioneer and largest producer of Sonic Energy Cleaning equipment

Pioneer-Central Division
The Bendix Corporation
Davenport, Iowa

SONIC ENERGY CLEANING

Please send complete information on your new Sonic Energy Cleaning line, including compact Uni-Son® models.

Name
Address
City Zone State

▲ For more details circle **NED-1017 E1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Guide to Power Transmission

Browning Mfg. Co.—Split taper bushings, sheaves, variable speed pulleys, V-belt drives and pulleys, belts, sprockets, chain, flexible couplings, bearings, motor bases, and pulleys are some of the broad range of power transmission products described in detail in Catalog GC-101-F. Engineering section deals with drive design, selection, and application.

▲ For more details circle **NED-1018 E1** on enclosed inquiry slip ▲

Electronic Component Assemblies

AMP Inc.—A new concept in three-dimensional modular packaging and interconnecting of electronic components is described in 8-page Bulletin 463. Maintainable electronic component assemblies and production economies possible are discussed.

▲ For more details circle **NED-1019 E1** on enclosed inquiry slip ▲

Furnace Heating Units

Trent, Inc.—"Folded and formed" industrial electric heating units for furnaces, ovens, and dryers are subject of 16-page Bulletin 103-T which covers application, performance, specifications, and installation. Designed as standard packaged heat sources, these racks come in one, two, and three-tier types for temperatures to 1850° F.

▲ For more details circle **NED-1020 E1** on enclosed inquiry slip ▲

Seamless & Electric Welded Steel Tubing

Copperweld Steel Co., Ohio Seamless Tube Div.—Electric welded carbon steel tubing up to 7½-in. OD by 0.375 in. wall in mechanical and pressure grades and seamless carbon and alloy steel tubing up to 7-in. OD in mechanical, pressure, aircraft mechanical, and airframe grades are now available. General Catalog CS-61 of 8 pages describes both types in square, rectangular, and special shapes.

▲ For more details circle **NED-1021 E1** on enclosed inquiry slip ▲

Transistor Guide

"Transistor Guide for Communications Circuit Designers" presents a comprehensive summary of the basic ground rules to be followed in designing transistorized communications circuits. Information aids design of circuitry for audio, video, RF and IF amplifiers, mixers and converters, oscillators, multipliers, and high frequency-high power output stages. Available only by writing on letterhead to Philco Corp., Lansdale Div., Church Road, Lansdale, Pa.

▲ For more details circle **NED-1022 E1** on enclosed inquiry slip ▲

Piezoelectric Devices

Clevite Electronic Components—Developments in high-power handling abilities of piezoelectric devices are highlighted in 16-page booklet "Piezoelectricity Today." It outlines and compares the performance characteristics of all major piezoelectric substances. Voltage outputs to 20,000 v or more are possible.

▲ For more details circle **NED-1023 E1** on enclosed inquiry slip ▲

Arc Welding Electrodes & Equipment

Lincoln Electric Co.—40-page Bulletin 7000.7 entitled "Weldirectory of Arc Welding Electrodes, Equipment, and Supplies" presents information on AWS electrode classification and discusses correct electrode selection. Properties are listed for stainless steel, cast iron, and hardsurfacing electrodes as well as those for mild and low alloy, high tensile steel welding.

▲ For more details circle **NED-1025 E1** on enclosed inquiry slip ▲

Drafting Room Equipment

Hamilton Mfg. Co.—Advances in drafting room equipment portrayed in 32-page Brochure ADR-612 are designed to reduce fatigue, increase draftsman efficiency, and save floor space. Covered are roll tracing files, drafting tables, and flat material files. Tables feature instantly changeable board positions.

▲ For more details circle **NED-1026 E1** on enclosed inquiry slip ▲

Self-Locking Nuts

Kaynar Mfg. Co.—One of the most complete selections of lightweight, all-metal, self-locking nuts developed for airframe, propulsion, and electronic industries is presented in the 1961 Kaylock catalog. It features new floating and nonfloating Stakenuts in regular and miniature sizes, and a new line of high strength, thin-wall inserts.

▲ For more details circle **NED-1027 E1** on enclosed inquiry slip ▲

Aluminum Selector Chart

Fairmont Aluminum Co.—Three-way folder-type aluminum selector chart outlines data on ten most used alloys with application, use, strength, thermal and electrical conductivity, density, specific gravity, and melting range data. Weight, tolerance, finishes, hardening properties, and embossing data augment the information.

▲ For more details circle **NED-1028 E1** on enclosed inquiry slip ▲

Automatic Weight Sensing Systems

Exact Weight Scale Co.—Offered as an idea stimulator, 8-page Manual 3513 shows how the principle of weight sensing or measurement of force can be used to perform a wide variety of production and quality control functions. The Shadograph scale weighing principle consists essentially of a 1-to-2 ratio predetermined weight scale with a transducer for converting the lever movement into an electrical readout signal.

▲ For more details circle **NED-1029 E1** on enclosed inquiry slip ▲

Directory of Manufacturers' Agents

More than 15,000 manufacturers' domestic and export representatives in the United States, Canada, and Puerto Rico are presented in the 217-page "1961 Verified Directory of Manufacturers' Representatives (Agents)." Listings are arranged geographically, and include the principal products carried and the trading areas covered. Indexed for ease of use, Directory sells for $20. Published by Manufacturers' Agent Publishing Co., 554 Fifth Ave., New York 36, N. Y.

▲ For more details circle **NED-1030 E1** on enclosed inquiry slip ▲

Aluminum Users!

Fairmont's new Aluminum Selector Chart helps you pinpoint specifications

Here's 35 years of aluminum know-how at your fingertips! Fairmont's new *Selector* and Design Data Guide is an indispensable reference if you use aluminum sheet, coil, circles in any number of finishes or embossed patterns. Enables you at a glance—to match best combination of aluminum properties to your specific applications. Includes complete tabulation on chemical and physical properties, application data on all aluminum alloys plus weights and helpful specification data.

WRITE for your free copy of the Fairmont Aluminum *Selector*, Vice-President—Sales, Dept. 36E Fairmont Aluminum Company, Fairmont, West Virginia.

FAIRMONT ALUMINUM COMPANY
SUBSIDIARY OF **CERRO CORPORATION**

Sales Offices in Principal Cities
FAIRMONT, WEST VIRGINIA
Fairmont 3010
Cable Address, Farmon

▲ For more details circle **NED-1024 E1** on enclosed inquiry slip ▲

GAST AIR MOTORS

MAY SOLVE YOUR DRIVE PROBLEMS WITH THESE 7 UNIQUE BENEFITS:

THIS MOLTEN METAL PUMP SHOWS HOW

You may never want to pump liquid solder at temperatures up to 700° F., as does this Ruthman* Molten Metal Pump.

Yet you may gain just the advantages you need by using Gast Air Motors for your drives. Think it over!

Six sizes — 1/20 to 7 h.p. Foot or flange mountings.

And let this example suggest how versatile and rugged they are for plant use or as an original equipment power source.

*Address furnished on request.

"Air may be your Answer" — WRITE FOR GAST AIR MOTOR CATALOG. We'll send Idea Booklet showing 14 air motor applications.

AIR MOTORS • VACUUM PUMPS • COMPRESSORS

GAST MANUFACTURING CORP.
P. O. BOX 117-R, BENTON HARBOR, MICHIGAN

▲ For more details circle **NED-1031 E1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

ANTICORROSION OIL
protects and lubricates metals

A few drops of Morse Anti-Corrosion Oil on joints, nuts, fittings, and gears will seep into cracks to lubricate and protect against rust or corrosion. Oil clings to all metallic surfaces and will not wash away. It is best suited for marine engines, hardware, diving, and other equipment used in salt water areas. Oil is supplied in 8-oz polyethylene spout-fitted bottles. • **Morse Instrument Co.,** Dept. 35, 21 Clinton St., Hudson, Ohio.

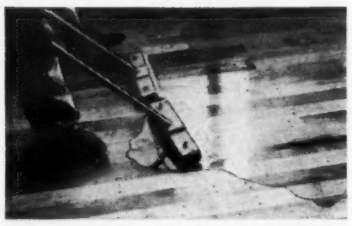
▲ For more details circle **NED-1032 E1** on enclosed inquiry slip ▲

SOLUBLE PACKAGING FILM
releases contents in 8 to 10 sec

Hylox water-soluble film made from polyethylene oxide resin and used for packaging dry detergents, bleaches, and industrial powders dissolves completely within 5 min of immersion. Film of 2-mil thickness releases the entire contents of the package into water in about 8 to 10 sec. Rolls are offered in widths up to 20 in. and thicknesses from 1½ to 10 mils. It is soluble in a 35 to 175° F range and is easily heat sealed at 150° F. Clear or colored film has good shelf life, will not crack down to −70° F, and can be printed. • **Visking Co.,** 6733 W. 65th St., Chicago 38, Ill.

▲ For more details circle **NED-1033 E1** on enclosed inquiry slip ▲

WOOD FLOOR FINISH
is long wearing, retains gloss



Wearability and gloss retention at least two to three times greater than conventional fine varnishes is exhibited by Imron oil-free urethane clear finish for wood floors. The super hard, glossy finish prevents dirt from sticking to it and is resistant to oil and grease. Despite its slick appearance, finish is not hazardously slippery. It cures or dries by reaction with atmospheric moisture. Under humidity conditions of 50 per cent or higher, it dries tack-free in 1 to 2 hr and can be buffed and recoated in 3 to 4 hr. Finish is applied by brush and adheres well to new wood and properly prepared concrete and old wood finishes. • **E. I. du Pont de Nemours & Co.,** Room D-8167, Wilmington 98, Del.

▲ For more details circle **NED-1034 E1** on enclosed inquiry slip ▲

CHROMALOX SNAP-ON DRUM HEATERS

Just snap on and plug in . . . for fast, uniform heating. 5-gallon size temperature ratings from 140° to 230°F . . . 300 to 1,000 watts. 55-gallon size temperature ratings from 140° to 190°F . . . 750 to 1,500 watts.

Resistance wires are double covered with braided Fiberglass and woven into a flexible mesh. Available with silicone rubber coating or impregnated with Teflon for added protection against abrasion and chemical attack.

Write for prices. Tell us which size and what is to be heated. Edwin L. Wiegand Company, 7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania. 91848

CHROMALOX Electric Heat
INDUSTRIAL • COMMERCIAL • RESIDENTIAL

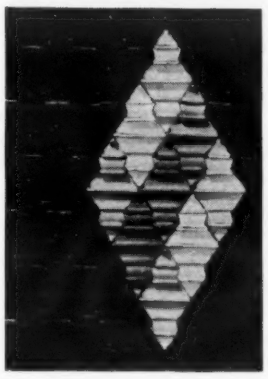
▲ For more details circle **NED-1035 E1** on enclosed inquiry slip ▲

ANTISLIP COATING
for brushing on slippery surfaces

Applied with a brush like ordinary paint, Acros Non-Slip Walkway Coating reduces the slip hazard on wet ship decks, catwalks, large pipe lines (pictured), factory structures, tank trucks, truck docks, stairs, and shower stall floors. Type 1 produces a good non-slip surface that is slightly rougher than paint, whereas Type 2 includes an abrasive for added safety. Both are offered in white and colors, in quarts, gallons, and 5-gal pails. • **Akron Paint & Varnish Co.,** Industrial Finishes Div., 1390 Firestone Parkway, Akron, Ohio.

▲ For more details circle **NED-1036 E1** on enclosed inquiry slip ▲

FLOOR MAT
link design assures size retention



Unusual interlocking link design incorporated in Sentinel entrance and floor mats assures dimensional stability in all directions. The uniformly molded vinyl links are woven on a nonrusting steel network and secured by a 2-in. plastic border reinforced by steel rods at the ends. Mat presents a non-slip, nonporous surface for safe footing under all conditions. Even the smallest heels cannot catch in the openings. Mat is quickly cleaned and rolls for easy handling. It is available in any size or shape with choice of any combination of 10 colors, including three marbleized polychrome colors. Trade-marks or emblems can be incorporated in the design. • **American Mat Corp.,** 1733 Adams St., Toledo 2, Ohio.

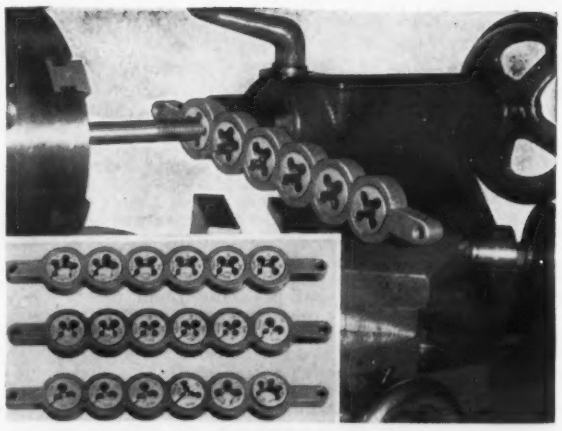
▲ For more details circle **NED-1037 E1** on enclosed inquiry slip ▲

INSULATING COATING
protects electronic components

Transparent, one-component HumiSeal 1F19 coating protects capacitors, resistors, transistors, diodes, coils, windings, and other electronic components from moisture, chemicals, corrosive gases, fungus, weathering, and aging. It dries tack-free at room temperature within 30 min and is then oven-cured. Temperature service range is −90 to 350° F. Coating is abrasion resistant, flexible, and an excellent insulator. It withstands soldering heat and has a shelf life of 6 months at room temperature. • **Columbia Technical Corp.,** 24-30 Brooklyn-Queens Expressway W., Woodside 77, N. Y.

▲ For more details circle **NED-1038 E1** on enclosed inquiry slip ▲

New Threading Tool
A Time Saver



This is a new threading tool for use in maintenance, model and machine shops that is ready to cut 18 different thread sizes. Six dies are mounted in each of three holders.

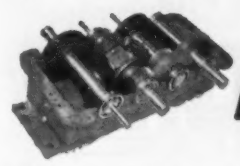
Holders are precision made of high strength aluminum. Will cut threads on any kind of lathe, pipe machine, drill press, also an excellent hand tool. For free bulletin showing the many time saving applications, write:

MOHR TOOL & MFG. CO., Dept. NED
P. O. Box 63-G, Maywood, Ill.

▲ For more details circle **NED-1039 E1** on enclosed inquiry slip ▲

DIFFERENTIAL

SPECON **GEAR BOXES**



Differential assemblies precision crafted by Specon for drives and transmissions are available as gear boxes alone. These task-proven assemblies offer the built-in advantages of Specon units: extreme accuracy, low maintenance, rugged, space saving construction. Seven basic models are rated from 1 hp. to 75 hp. Specials and units for higher power can be supplied. The Specon units are particularly well suited for such applications as phase and register control, speed control, torque dividing, overriding, cycling and balancing operations.

For full information on Specon gear boxes, drives and transmissions, write to:

STRATOS®
A DIVISION OF FAIRCHILD ENGINE AND AIRPLANE CORPORATION
Industrial Products Branch, Route 109, West Babylon, L. I., New York

▲ For more details circle **NED-1040 E1** on enclosed inquiry slip ▲

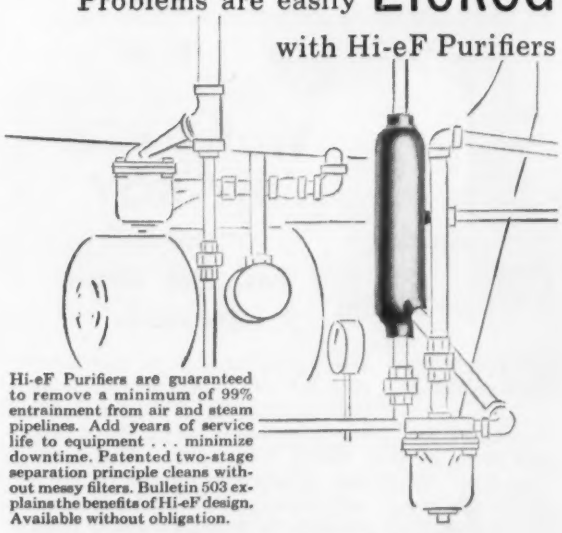
Here's the way to reduce costs for machine parts, controls, and operating devices.

There are unlimited possibilities for "Safe-Lock" assemblies — and there are hundreds of standard combinations listed in Catalog 6101. They cost you less than making assemblies yourself in a non-specialized shop. "Safe-Lock" fittings develop the full strength of the wire rope. For safe, cost-cutting, efficient, top quality cable assemblies, ask for Catalog 6101. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE 252

▲ For more details circle **NED-1041 E1** on enclosed inquiry slip ▲

Air and Steam Entrainment
Problems are easily **Licked**
with Hi-eF Purifiers



Hi-eF Purifiers are guaranteed to remove a minimum of 99% entrainment from air and steam pipelines. Add years of service life to equipment . . . minimize downtime. Patented two-stage separation principle cleans without messy filters. Bulletin 503 explains the benefits of Hi-eF design. Available without obligation.

Hi-eF PURIFIER
By the Manufacturers of Super-Silvertop Steam Traps
The V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1998 W. 96th Street • Cleveland 2, Ohio

▲ For more details circle **NED-1042 E1** on enclosed inquiry slip ▲

Automate your package, part or container conveyer system with

MAG-PAC* MAGNETIC CONVEYOR CONTROLS

• CUT COSTS • INCREASE OUTPUT • IMPROVE EFFICIENCY

With MAG-PAC Dispatcher-Marker and Reader-Coordinator modular control units you can direct your entire conveyor system automatically. Extremely simple, flexible, dependable. Low installation cost. Get the MAG-PAC story now.

*MAG-PAC is a trademark of Flo-Tronics, Inc.

Write for Free MAG-PAC catalog—

FLO-TRONICS, INC.
electronic controls division
712 west ontario avenue
minneapolis 3, minnesota

▲ For more details circle NED-1043 E1 on enclosed inquiry slip ▲

ELECTRONIC SEAL OUTSTANDING FOR SUPER PERFORMANCE

SIZE 10" x 12" TO HOLD 8½" x 11"

STOCK #JV-3

TRANSPARENT JOB TICKET ENVELOPE

SENSATIONAL LOW PRICE! 15¢ EACH MINIMUM 100 FOB FACTORY

Specify with or without Grommet Hole

FREE TEST SAMPLE FROM

WE ARE SPECIALISTS Fabricating Vinyl Envelopes

20th century plastics, inc.

415 EAST WASHINGTON BLVD., LOS ANGELES 15, CALIF.
RICHMOND 7-5329

▲ For more details circle NED-1044 E1 on enclosed inquiry slip ▲

DRUMS . . . Pick Up, Move, Stack, Dump – Easier, Faster

with New

Weld-Bilt HY-BOY Verti-Lift Portable Drum Elevator

"Weld-Bilt" PRODUCTS

Great time-savers, at new low cost, HY-BOY "Verti-Lifts" load, unload, store, stack drums in less time and effort. More important—they provide fast, safe front or side tilting mechanism for efficient "last-drop" emptying. Electro-Hydraulically operated, with heavy duty battery, built-in charger, capacity, 1500 lbs., available in models for lifts from 60" to 112".

Write for HY-BOY Catalog CM-558 and prices on new Drum Handling HY-BOY Verti-Lift Portable Elevators.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

▲ For more details circle NED-1045 E1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Answers to Drafting Questions

Keuffel & Esser Co.—6-page brochure presents 100 of the most frequently asked questions about reproduction and drafting processes and materials. Answers are given, and details of equipment and materials are offered.

▲ For more details circle NED-1046 E1 on enclosed inquiry slip ▲

Hot Water Storage Tank Heaters

Old Dominion Iron & Steel Corp.—Odis hot water storage tank heaters are available in standard steel, cement lined, copper lined, solid copper-silicon, galvanized steel, and phenolic line steel types. Application data and design considerations are tabulated in 16-page Catalog 602.

▲ For more details circle NED-1047 E1 on enclosed inquiry slip ▲

Machine or Process Load Control

Machinery Electrification, Inc.—"Cutting Production Costs with an MEK Load Control" is title of 32-page booklet which discusses the application of load controls. The MEK device continuously analyzes the use of electrical power by a machine or process.

▲ For more details circle NED-1048 E1 on enclosed inquiry slip ▲

Metal Cutting Knives Manual

Wapakoneta Machine Co.—Straight and irregular shear knives, circular knives, hardened ways, rocker plates, machine liners, and wear strips are among the products described and illustrated in 84-page manual of Wapak metal cutting knives. Specifications, application data, information on available steel grades, shearing capacities, maintenance, and much other data are included.

▲ For more details circle NED-1049 E1 on enclosed inquiry slip ▲

Cutting Costs & Improving Products

Stanley Works—This manufacturer of many industrial products, including steel rules, strapping, cold rolled strip steel, automatic door equipment, power tools, vises, industrial coatings, molded products, hand tools, stampings, and springs, among others, is publishing the quarterly "Stanley Industrial News." Information on these and other products is found in Vol. 1 No. 1. This publication will be sent regularly to buying and specifying officials.

▲ For more details circle NED-1050 E1 on enclosed inquiry slip ▲

Printing & Decorating Polyethylene

W. R. Grace & Co., Polymer Chemicals Div.—The techniques for printing and decorating polyethylene containers and products are covered in 16-page Guide No. 108. The principles of hot stamping, flexography, gravure, offset lithography, silk screening, transfer labeling, and four-color dry offset printing are discussed. Listed are 250 sources for services, equipment, and supplies for imprinting.

▲ For more details circle NED-1051 E1 on enclosed inquiry slip ▲

INDUSTRIAL INCINERATORS
— Save Hauling Charges
— Pay for 'Selves in 6 to 12 Months

New Model C2. Available in 10, 15, 20 and 30 bushel capacities.

Save more than the price of a Winnen Incinerator! Eliminate monthly charges for hauling refuse. Avoid fire hazards and reduce your fire insurance premiums. Why take chances of spontaneous combustion, carelessly tossed cigarettes or matches?

Winnen Incinerators burn all dry, or wet-and-dry (mixed) refuse. Your choice of fuels. No fuel is needed to burn refuse 80% dry. Feed doors are over-size for quick loading of cartons and crates without breaking them up.

Winnen Incinerators can be installed indoors or out, take up little space. Combustion chamber is lined with heavy refractory material to withstand exceedingly high temperatures. Shell is heavy gauge steel. Optional equipment is available, such as automatic fuel control, smoke and fly-ash remover ("water wash"), automatic door lock for preheating, prefab chimney, etc.

Five models. Models C, C2 and E are available in 4, 10, 15, 20 and 30 bushel capacities. Model S in 7, 10, 15 and 20 bushel. The Custom Wincinator (WS Model) is built in *any* size, on order. All Wincinators have multiple combustion chambers. When operated as directed they give trouble-free, smokeless-odorless service. Fully guaranteed one year.

Models C, C2 and S are shipped knocked-down with easy-to-follow directions for installing. Any handy man can set up a Wincinator. No mason needed. Easy to relocate later if you wish.

Also available is a complete line of prefab chimneys. Send for complete information. Write today to Winnen Incinerator Co., 932 Broadway, Bedford 10, Ohio, U.S.A.

Advt.

▲ For more details circle NED-1052 E1 on enclosed inquiry slip ▲

FREE

2000 psi

36H 10 to 65 gpm 10 to 80 hp

15H 2 to 24 gpm 1 to 20 hp

COMMERCIAL Fluid Power Pumps-Motors for Heavy Duty O.E.M.

Bulletins 100-P6 and 100-P7 now available. Write to Commercial Shearing & Stamping Company, Dept. J-18, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

▲ For more details circle NED-1053 E1 on enclosed inquiry slip ▲

SAND-O-FLEX

Whipped this Tricky Deburring Job in a Matter of SECONDS

BEFORE

AFTER

Sand-O-Flex the flexible sanding wheel finishes and polishes in record time. Firm cushioning banks of bristles, backing projecting strips of abrasive cloth force the abrasive into and around intricate surfaces "wiping clean" burrs, flash and tool marks in seconds, without flatting or digging . . . produces satin finishes too. Fresh abrasive strip unwinds from cartridge . . . refill cartridges available. Coarse, medium or fine grits. Attaches to your present power tools or any rotating spindle. There's nothing as fast for contoured or intricate steel, chrome, aluminum, brass, magnesium, wood, plastic surfaces.

MERIT PRODUCTS, INC.
first choice is always a product of Merit
3651 Lenawee Ave., Los Angeles 16, California

▲ For more details circle NED-1054 E1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

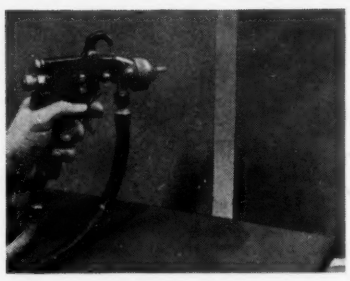
ADHESIVE TAPES
three types for various industrial uses have high-tack adhesives

One of three new gray cloth pressure sensitive adhesive tapes for industrial uses, 0.0125-in. thick C-518 plain cloth has a dull finish gray dyed printed cloth backing and a high-tack rubber-based adhesive. Tensile strength is 50 oz per inch of width. Companion C-519 coated cloth tape has the same adhesive, but a plastic coated cloth backing. Thickness of this waterproof tape is 0.013 in., adhesion to panel is 45 oz per inch of width and strength is 50 lb per inch of width. It can be used to seal and waterproof packages, seal work joints as shown, and seal roof panels prior to asphalting.

Third type is C-520, a waterproof tape for use on closures which must be protected against any form of moisture. It has a polyethylene coated cloth backing, a high-tack adhesive, thickness of 14 mils, and a 40-oz adhesion to steel. This tape has good resistance to weathering and a long shelf life. • **Arno Adhesive Tapes, Inc.,** Ohio Street & Highway 20, Michigan City, Ind.

▲ For more details circle **NED-1055 E1** on enclosed inquiry slip ▲

SPRAY-ON VINYL FINISHES
texture and color are controllable



Tough, multicolored coatings can be applied to products after fabrication with line of two-step spray-on vinyl finishes. They are applied to either phosphated steel or aluminum by conventional or electrostatic spray techniques. A wet film base coat of the desired undertone color is first developed with three or four spray passes. While part is still wet, three or four spray passes of topcoat are applied. Color texture forms during this second application. Texture is function of viscosity and wetness of base and topcoats, both controllable within close limits. Coated rejects can be stripped and resprayed. • **Metal & Thermit Corp.,** Coatings Div., Rahway, N. J.

▲ For more details circle **NED-1056 E1** on enclosed inquiry slip ▲

GRAPHITE FILM LUBRICANT
liquid form dries to hard finish

Many heavy-load sliding friction problems can be solved with Slip-Plate bonded-graphite dry-film lubricant. Material comes in liquid form and can be brushed, sprayed, or rolled on metal or wood surfaces. It air-dries to a hard finish in a few minutes and cannot be squeezed out or brushed off, even under heavy loads. Lubricant is not affected by severe temperature changes, such as from 800° F to −75° F, is impervious to snow and rain, does not gather sand or dirt, is a good conductor of electricity and heat, and fights off rust and corrosion. Lubricant is offered in heavy and fine graphite consistencies and is typically used to coat wire rope, plow and scraper blades, chains and conveyor guides, and sliding door channels. • **Superior Graphite Co.,** 33 S. Clark St., Chicago 3, Ill.

▲ For more details circle **NED-1058 E1** on enclosed inquiry slip ▲

FLOOR PLATE
rolled from high strength steels

Additional strength without an increase in weight, or weight reduction in finished products without loss of strength, result from the use of two grades of Jal-Tread floor plate. Applications include platforms, lifts, scale beds, truck beds, railroad car bottoms, power plant fan blades, and round conveyor pipe for grain and powdered coal. Jalten high strength, low alloy, rolled steel plates have a 50,000-psi minimum yield and 70,000-psi minimum tensile. Thicknesses range from 3/16 to ½ in. and maximum length is 360 in. Minimum width is 24 in. and maximum width is 48 in. Jalloy AR-360 grade heat treated alloy steel has a 340/360 Brinell hardness and good abrasion resistance. Mill size limits are the same as for Jalten except that maximum length is 240 in. • **Jones & Laughlin Steel Corp.,** 3 Gateway Center, Pittsburgh 30, Pa.

▲ For more details circle **NED-1059 E1** on enclosed inquiry slip ▲

Caster Selection Simplified

Rapids-Standard Co.—22 x 29-in. wall chart simplifies the selection of industrial casters. It features five standard caster series and includes load limits, installation data, wheel properties, and application data. Types for trucks, dollies, and other mobile equipment are included, covering an 80 to 3000-lb capacity range.

▲ For more details circle **NED-1060 E1** on enclosed inquiry slip ▲

NEW!
SCHRADER PISTOL-GRIP BLOW GUN
Safe... comfortable... easy to control... only 6½ ounces

USE FOR: Fast drying of work, clearing chips from work tables, removing dirt and oil from dies, etc.

FEATURES: Non-pinch trigger action meters air flow from whisper to blast. Lightweight aluminum construction, only 6½ ounces, and compact design, just 5" long with standard nozzle, permits continuous, fatigue-free use on production lines. Non-slip grip for safety and convenient hang-up hook.

CONSTRUCTION: Nozzle quickly interchangeable with other Schrader nozzles. May be replaced with pipe thread extension for hard-to-reach places. All internal parts corrosion-resistant for long life. Supplied with ¼ female NPT inlet. Suggested net price for Schrader pistol grip blow gun $3.20

Your Schrader distributor has it now!

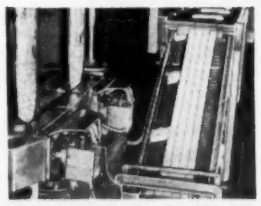
Schrader a division of SCOVILL
A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle **NED-1061 E1** on enclosed inquiry slip ▲

Overhead Wendway system saves valuable floor space. Excellent for cooling or drying operations.

WENDWAY
Pays for itself!

....IN ACTUAL PROVABLE SAVINGS



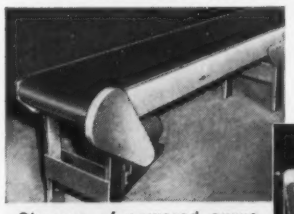
Short sections, inclines or curves solve processing problems—eliminate storage equipment and handling.

Assembly operations are "naturals" for Wendway. Products travel safely from point to point with no delays.

You'll be astounded to learn how quickly a Wendway conveyor system will pay for itself in your plant. Simply because Wendway eliminates multiple handling, saves man hours, floor space and storage equipment—all while conveying your particular product swiftly, silently, safely and *more economically* to a desired location.

Wendway steel wire belting has proved most practical for any light product, package, carton, etc., up to twenty pounds per unit. It does not sag, stretch or accumulate dirt. And . . . it's available in a wide choice of practical widths in standardized straight, curved, and tiered component sections.

For Those Difficult, Hard-To-Convey Products . . . we recommend any one, or a combination of the heavy duty Wendway Conveyor types shown below.



Closeup of powered curve shows how individual slats negotiate curve without variation in spacing. Capacity is approximately 70 pounds per lineal foot. Available in curved or straight sections in standard widths.

Heavy duty Wendway is available with solid belting such as Neoprene, rubber or canvas. Belting widths mix or match with **regular** or slat type units.

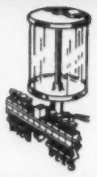
Write Today—for additional information, specifications on a Wendway system to match your requirements.

UNION STEEL PRODUCTS CO.
505 N. Berrien St.
ALBION
MICHIGAN

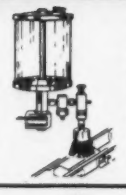
▲ For more details circle **NED-1062 E1** on enclosed inquiry slip ▲

OIL-RITE LUBRICATING EQUIPMENT
A COMPLETE LINE...for better Automatic Lubrication

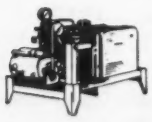
DROP FEED OILERS
Low cost, dependable lubrication. Drop feeding adjusted by needle valve. Any setting may be locked. Shut-off toggle starts or stops oil flow. Available in many models and capacities from ½ oz. to 1 gal. with ⅛" to ½" pipe thread or for remote mounting.



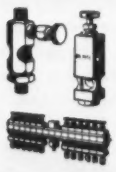
ELECTRO OILERS
Lubricates up to 24 points from single reservoir. Oil is fed by gravity to individually adjustable outlets. Solenoid connected across motor — oiling starts and stops with motor switch. Available in single or multiple feeds. Capacities 9 oz. to 1 gal.



ELECTRO CHAIN OILERS
Reduce wear — eliminate hand oiling. Feed oil through solenoid and sight feed valve to brush riding chain. Solenoid permits oiling only when chain moves. Drop feed adjustable. 9 oz. to 1 gal. capacity. Many styles and brush sizes.



DISPENSERS
Feed oil to elevated, distant and inaccessible points for dispensing through valves. Ideal for dusty and dirty surroundings. Air operated or motor driven gear pump circulating oiling system available in a wide range of sizes and tank capacities.

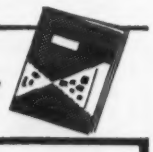


SIGHT FEED VALVES
For any application requiring adjustable visible needle valve control. Friction screw retains hairline adjustments. Large vented sight chambers for observing oil flow. Many styles, single or multiple feed.

LIQUID LEVEL GAGES
Rugged construction, with glass or plastic sights, revolvable shields and guarded vent hole. Can be taken apart for installation in tight places. Many styles and sizes in both plain and shielded, elbow or straight types.

OIL-RITE offers you BIG SAVINGS — Low cost oilers . . . automatic lubricating systems . . . ways to reduce costs and maintenance . . . you'll find them all in the complete OIL-RITE line. Backed by 25 years experience, OIL-RITE engineers will help you select the model to fit your application. Write today for a catalog on the COMPLETE OIL-RITE line. Consult us without obligation.

Items illustrated are only a few in the extensive Oil-Rite line. Complete catalog will be sent on request.



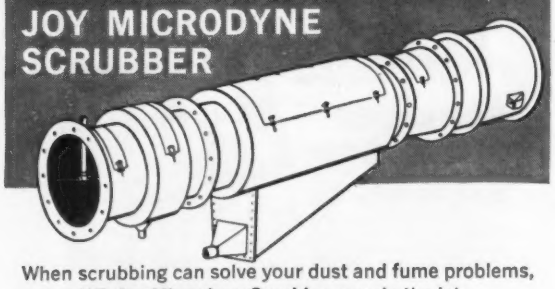
Take advantage of **Oil-Rite** Application Engineering Service

Oil Cups • Dispensers
Oiling Systems • Valves
Oil Gages • Chain Oilers

Oil-Rite CORPORATION
2364 Waldo Boulevard • Manitowoc, Wisconsin

▲ For more details circle **NED-1057 E1** on enclosed inquiry slip ▲

The COMPACT dust collector that fits into 1/10th the space!
JOY MICRODYNE SCRUBBER



When scrubbing can solve your dust and fume problems, only a WP **Joy Microdyne Scrubber** can do the job so efficiently in so little space.

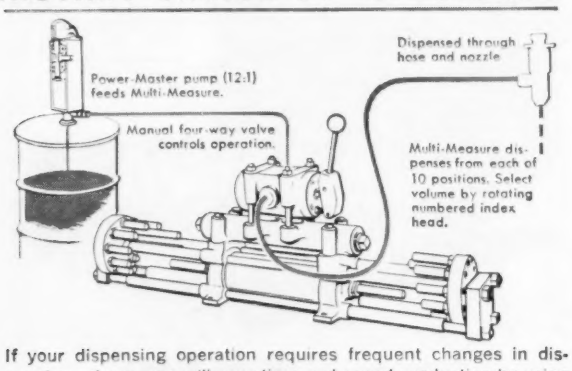
Needs only a fraction of the space of other collectors . . . weighs far less . . . yet delivers highest efficiency. Installs in existing duct system, in horizontal or vertical position . . . often at the dust source. Steel or corrosion resistant alloy construction.

WRITE FOR LITERATURE today to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

WESTERN PRECIPITATION

▲ For more details circle **NED-1063 E1** on enclosed inquiry slip ▲

NEW MEASURING VALVE OFFERS INSTANT CHOICE OF 10 VOLUMES



If your dispensing operation requires frequent changes in dispensing volume, you will save time and speed production by using Lincoln's new Multi-Measure Model 83232. Ten adjustable stop pins let you preset the amount each position will discharge with a range of settings from .5 to 25 ozs. The numbered index heads rotate for rapid switching from one volume to another. The system is ideal for filling different mold cavities with the exact amount of material each requires, filling gear cases, sealed bearings and similar applications.

Lincoln offers a complete selection of measuring valves for precision metering and dispensing of fluid and semi-fluid materials. Whatever your requirements for dispensing materials, consult Lincoln first.

LINCOLN ENGINEERING COMPANY
4010 GOODFELLOW BLVD ST. LOUIS 20, MO
DIVISION OF THE McNEIL MACHINE & ENGINEERING CO
6109

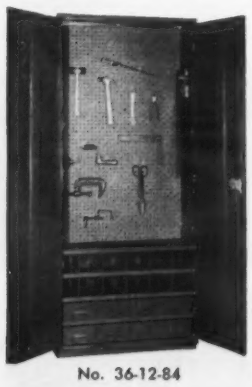
▲ For more details circle **NED-1064 E1** on enclosed inquiry slip ▲

SAVE SPACE

PARENT TOOL and HARDWARE CABINETS

EVERYTHING WILL BE AT YOUR FINGERTIPS WITH PARENT'S MODERN AND SPACIOUS CABINETS.

Each cabinet is 36" W, 12" D, doors with lock.



No. 36-12-84

No. 318

No. 318 Hardware Cabinet — Equipped with 10 various size bins, 68 various size drawers plus convenient sliding shelf. No. 36-12-84 Tool Cabinet — Perforated masonite tool board mounted on back and sides plus 50 tool hooks. Contains 12 bins and 8 box drawers.

PARENT METAL PRODUCTS Philadelphia Penna.

SEND FOR FREE ED-1 CATALOG TODAY! !
6801 STATE ROAD
DEPT. S-44
PHILADELPHIA 35, PA.

▲ For more details circle **NED-1065 E1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Fusible Alloys & Their Applications

American Smelting & Refining Co., Federated Metals Div.—Techniques for melting, molding, bending, and machining, plus extensive application information for AsarcoLo fusible alloys are detailed in 32-page illustrated booklet. Uses in fire protection devices, soldering and sealing, and heat transfer devices are covered. Melting points range from 117 to 281° F.

▲ For more details circle **NED-1066 E1** on enclosed inquiry slip ▲

Nailing Tools & Fasteners

Spotnails, Inc.—16-page Bulletin B-115 is descriptive of a complete line of narrow crown Spotstaples, T-nails, heavy duty staples, wide crown Spotstaples, and Spotpins for stapling, nailing, or joining a wide range of materials. Also detailed are a variety of hand and power portable guns for driving these fasteners.

▲ For more details circle **NED-1067 E1** on enclosed inquiry slip ▲

Subminiature Precision Potentiometers

Daystrom Inc., Potentiometer Div.—Detailed specifications on 1544 standard Squaretrim subminiature precision potentiometers are found in short form catalog. Covered are square trimming, rotary, and other types of units that combine high power, high temperature, and high linearity.

▲ For more details circle **NED-1068 E1** on enclosed inquiry slip ▲

RF Connectors

Illustrations and technical data of this 120-page radio frequency connector catalog are devoted to K-grip, BN, BNC, HN, LC-HT, LN, N, pulse, miniature and subminiature, twin, UHF, and other types of connectors. Also included are adapters of many types, telephone jacks and plugs, and a 15-page cross referencing index. Available only by request upon company letterhead to Kings Electronics Co., 40 Marbledale Rd., Tuckahoe, N. Y.

▲ For more details circle **NED-1069 E1** on enclosed inquiry slip ▲

Radiochemicals & Services

New England Nuclear Corp.—Extensive listing of radiochemicals included in 28-page illustrated catalog and Price List Schedule H covers carbon-14 labeled compounds and steroids, tritium labeled steroids, and deuterium labeled compounds. Also described are many radioactive reference sources, reference source compounds, and radioanalytical services performed.

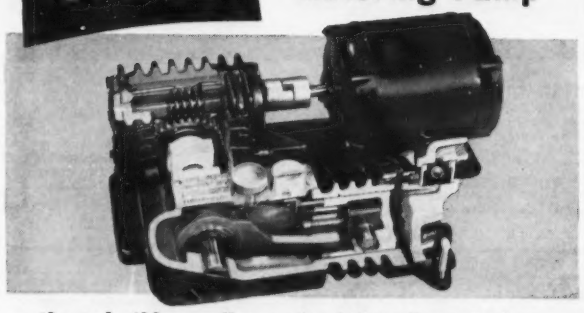
▲ For more details circle **NED-1070 E1** on enclosed inquiry slip ▲

Ceramics Properties Chart

American Lava Corp.—Properties of AlSiMag steatite, Forsterite, zircon, titania, titanates, cordierite, lava, alumina, crushable ceramics, machinable ceramics, leachable ceramics, and refractories are detailed in Properties Chart 611. Its 8 pages also have selection charts arranged according to property values.

▲ For more details circle **NED-1071 E1** on enclosed inquiry slip ▲

New MADDEN Metriflow Metering Pump



the only thing ordinary about it is the price!

- Unitized construction; no moisture or dirt gets in—no oil or grease leaks out.
- Built like a tank. Machine-cut gears; outboard bearings on drive shaft; piston-supported diaphragm.
- Ideal for slurries and corrosive liquids; solution heads available of stainless steel, Hastelloy, etc.
- Duplex models double capacity from one motor, by alternating power strokes.
- 4 standard sizes—0 to 10, 18, 36 or 54 GPH; pressures to 300 psi. Adjust capacity while operating.

THE MADDEN CORPORATION
1345 Jarvis Ave., Chicago 26, Ill.
Write For Full Information

▲ For more details circle **NED-1072 E1** on enclosed inquiry slip ▲

Von Arx Air Gun
NEW METHOD FOR DE RUSTING DE SCALING CLEANING

REMOVES WELD SLAG OLD PAINT RUST

PNEUMATICALLY OPERATED

Eliminate weld slag, rust, old paint, clean concrete and rake joints fast and effectively with the VON ARX AIR GUN.

LARGER MODELS AVAILABLE

The VON ARX AIR GUN contains a series of hardened steel needles which adjust to the contour of the surface being cleaned.

Available in four sizes, there is a VON ARX AIR GUN to fit every job, large or small. For further information or demonstrations, write or call . . .

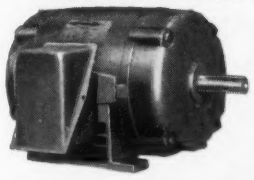
EASILY CLEANS HARD-TO-GET-AT AREAS

C. J. BREITENSTEIN CO.
8805-5 SHERIDAN DR. BUFFALO 21, N. Y. NF 2-8375
Western States. T. G. CULLEN, 3710 Grand Ave., Dept. 60, Oakland, Calif.

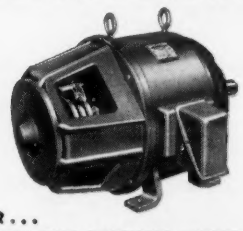
▲ For more details circle **NED-1073 E1** on enclosed inquiry slip ▲

The IMPERIAL Line
MOTORS • GENERATORS • MOTOR-GENERATOR SETS

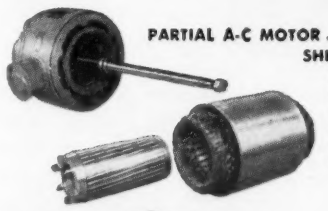
BEST POWER FOR STANDARD AND SPECIFIC-PURPOSE APPLICATIONS



DRIP-PROOF A-C MOTOR—*Today's Best Buy for Most Applications—Ratings from 1 to 200 Hp.—Designs Include Flange and Face Types, Multi-Speed, etc.*



WOUND-ROTOR MOTOR—*Open Construction—Allows Easy Access for Inspection and Excellent Ventilation and Self-cleaning Action—From ½ to 150 Hp.*

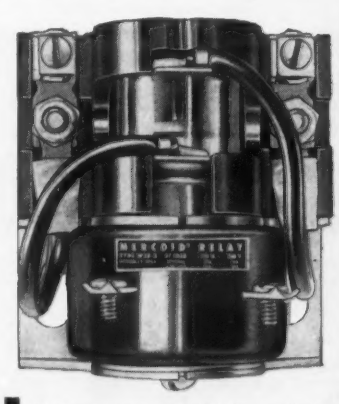


PARTIAL A-C MOTOR . . .

SHELL-TYPE SHAFTLESS MOTOR *. . . Other Special or Specific Types . . . Provide Maximum Power in Minimum Space . . . Blend with Basic Design of Machines.*

IMPERIAL ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

▲ For more details circle **NED-1074 E1** on enclosed inquiry slip ▲



35 AMP Plunger Type MERCURY RELAY

If you need reliability and durability, this quality built relay by Mercoid is your answer.
For heavy duty loads, such as resistance heating, (domestic, commercial, industrial)—heat treating furnaces, drying equipment, welding, lighting, illuminated signs, score boards.
Hermetically sealed mercury to mercury contact provides visible on-off operation. Silent and chatterless. Quickly mounted, easily wired. Speeds up to 100 operations per minute.

CONTACT RATING

LOAD

	AC	DC
120V.	30A.	15A.
240V.	20A.	10A.
440V.	8A.	—

*NON INDUCTIVE HEATER LOADS

AC ONLY

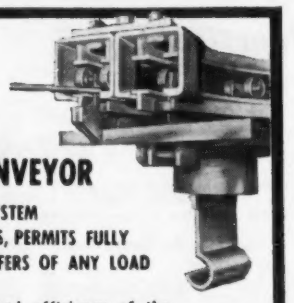
120V.	35A.
240V.	25A.
440V.	10A.

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

Write For Bulletin 0-20

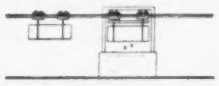
▲ For more details circle **NED-1075 E1** on enclosed inquiry slip ▲

THIS IS THE REMARKABLE ECON-O-VEYOR 'POWER-&-FREE' CONVEYOR

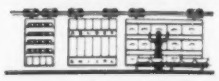


THE TWO-TRACK CONVEYOR SYSTEM THAT SLASHES HANDLING COSTS, PERMITS FULLY AUTOMATIC STORAGE & TRANSFERS OF ANY LOAD

The well-known durability and efficiency of the ECON-O-VEYOR overhead conveyor—used in industry as a powered overhead for many years—is now available as a highly flexible two-track "Power-&-Free" system. As shown in the illustration below, the system will carry materials or assemblies from operation to operation, automatically store loads on side tracks till needed, tranfer to other conveyors for different speeds of travel. Rugged ECON-O-VEYOR construction assures continuous trouble-free operation . . . little wonder that most ECON-O-VEYOR installations pay for themselves in *months!* It's the most economical way to handle *any* load—perfect as the basic element for automated operations!



Intermittently operated "Power-&-Free" with vertically movable section for dipping materials into treating baths.



"Power-&-Free" used to move racks and bins of merchandise to order filler.

For Brochure, Write:

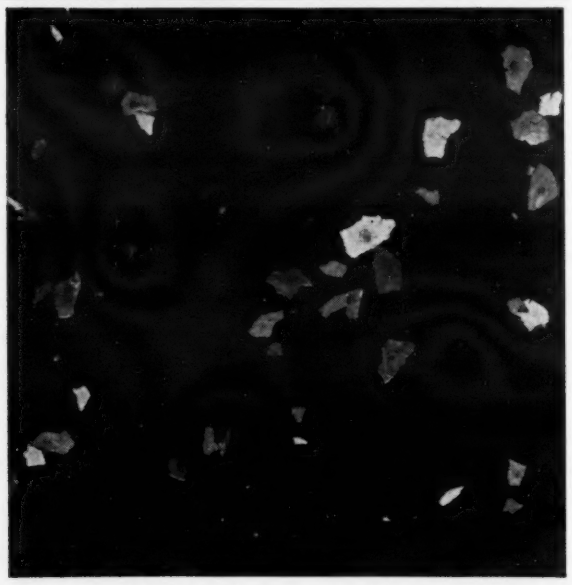
ECON-O-VEYOR

Division of

HAPMAN CORPORATION

630 GIBSON STREET, KALAMAZOO, MICHIGAN

For more details circle NED-1076 E1 on enclosed inquiry slip



This is Mastipave . . . world's toughest low-cost floor covering. It stands up to heavy foot and wheel traffic. Cleans easily. Lasts for decades. Comes plain, decorated and with non-slip surface. Free folder is yours for the writing:

DEPARTMENT NE PABCO FLOOR COVERING DIVISION, FIBREBOARD PAPER PRODUCTS CORPORATION, 475 BRANNAN STREET, SAN FRANCISCO, CALIFORNIA

For more details circle NED-1077 E1 on enclosed inquiry slip

more capacity per horsepower with cradle-mounted pumps

HERE IS a dependable pump with exclusive Ingersoll-Rand features and proven design:

Higher Efficiencies—less power consumption

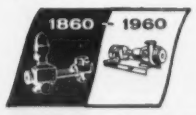
Maximum Strength—greatest possible rigidity and support strength

Easier Accessibility—extra large side openings, split-type stuffing-box glands

Driver Flexibility—use electric motor, steam turbine or gasoline engine

Complete data on the full line of I-R Cradle-Mounted Pumps is in Catalog 7223-B. Send for your copy today or see your local I-R representative or distributor.

91A-9



A CENTURY OF PUMP PROGRESS from the leading Manufacturer

Ingersoll-Rand

11 Broadway, New York 4, N. Y.

For more details circle NED-1078 E1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

CLEANING CHEMICALS for wide-range ultrasonic uses

Series of specialized cleaning solutions for varied ultrasonic cleaning applications includes No. 222, a waterless solution formulated for use where ammonia is not desirable. It imparts a brilliance and luster to copper, brass, and steel parts. Ammoniated No. 112 removes gummed oil and grease, oil-soluble cutting oils, asphalt and tar, carbonized residues, sulfides, waxes, fluxes, oil, and fingerprints from ferrous and nonferrous metal parts, components, instruments, and assemblies. Third product is Hydro-Sonic cleaning solution concentrate which removes water-soluble soils, fingerprints, lapping compounds, cutting oils, waxes, rouges, and tripoli from metal, glass, and plastic. Also offered is instrument rinsing solution, a refined petroleum base solvent for use with all of these cleaning solutions. • **L & R Mfg. Co.**, 577 Elm St., Kearny, N. J.

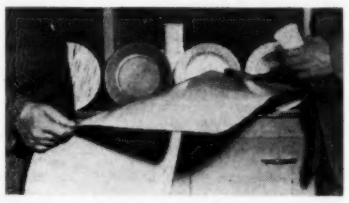
For more details circle NED-1079 E1 on enclosed inquiry slip

PIPE WRAP CALCULATOR tells how much is needed for job

The 6½-in. diameter circular slide-rule calculator will show how much pipe line outer wrap is needed for any job and the total cost of the material. It will also tell the corrosion engineer how much he can save by specifying Fiberglas outer wrap. • **Owens-Corning Fiberglas Corp.**, Toledo 1, Ohio.

For more details circle NED-1080 E1 on enclosed inquiry slip

HIGH BARRIER PAPERBOARD resists moisture, grease, air, gases



Economy packages for a wide variety of products can be made from this high barrier paperboard, a packaging material with a barrier coating of Daran polyvinylidene chloride emulsion. Material has high resistance to moisture, grease, air, gases, odors, and many acids, alkalies, and solvents. Packages made of it retain the original freshness and flavor of food products, and are applicable to such products as motor oils, cements, cereals, seed, chemicals, photographic film, cosmetics, soap, tobacco products, and pharmaceuticals. Flexible material can be scored and folded. • **Potlatch Forests, Inc.**, Lewiston, Idaho.

For more details circle NED-1081 E1 on enclosed inquiry slip

In Mowing--

IT'S THE BLADE THAT COUNTS!

The free-swinging, flail type blades of the MOTT Hammer-Knife are heavy enough to cut dense growth of grass yet light enough to fold back when striking obstructions, thus minimizing flying objects and the damage and injury caused by them.

Only MOTT has the patented, self-cleaning cutting angle on the blade that permits mowing in all conditions—dry or wet!

Designed to withstand the stresses encountered when used under the most rugged mowing conditions. Available in a full range of models—from 18" to 19 ft. gangs.

mott HAMMER KNIFE

You can mow with MOTT . . . where others cannot

Details on request.

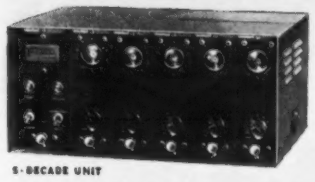
MOTT CORPORATION

500 Shawmut Ave., La Grange, Ill.

Address mail to: P. O. Box 278-19, La Grange, Ill.

For more details circle NED-1082 E1 on enclosed inquiry slip

accelerate production, improve accuracy, cut costs with



5-DECADE UNIT

Tally-COUNT® electronic predetermining counter

Tally-COUNT automatically counts precise units into a container . . . determines exact footage from a roll . . . stops and recycles machine operations at preset counts, at electronic speeds.

Tally-COUNT is actuated by external contacts or electronic impulses; control relay operates required mechanism: solenoid, motor, cut-off knife, etc.

Optional plug-in accessories: Batch Register, Photo-Electric Eyes, Footage Counters, Multiple Pre-Set Decades.

SPEEDS OPERATION
ELIMINATES GUESSWORK
BOOSTS PRODUCTION

Photo-Electric

FOOTAGE COUNTER

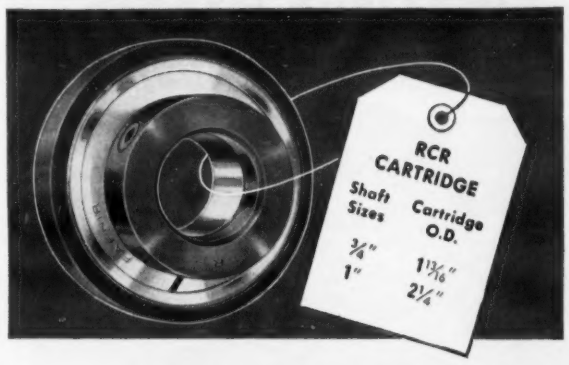
for use on PAPER, CLOTH, PLASTICS, METAL, etc.

For measurement and control of production. Measures, marks, cuts, stops. Lineal measuring wheels for yards, feet, 10ths of feet or inches.

Write for Brochure CP-5.

standard INSTRUMENT CORPORATION 657 BROADWAY, NEW YORK 12, N. Y.

For more details circle NED-1083 E1 on enclosed inquiry slip



FAFNIR RUBBER-CUSHIONED BALL BEARINGS

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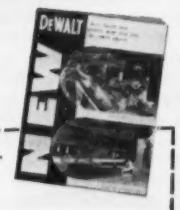

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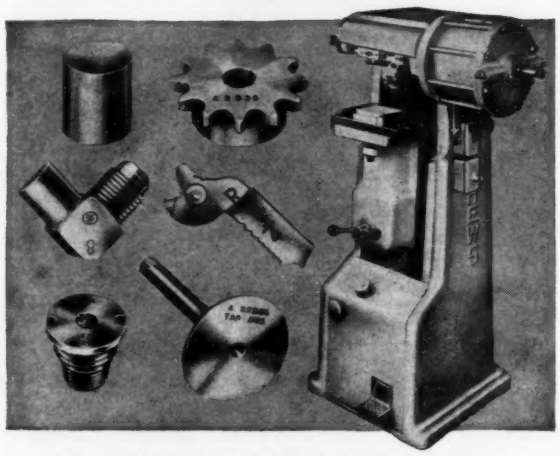

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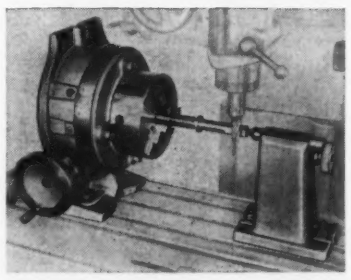

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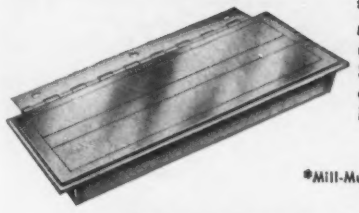

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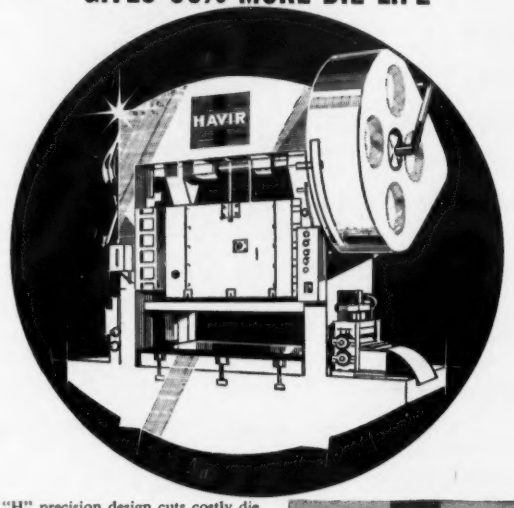

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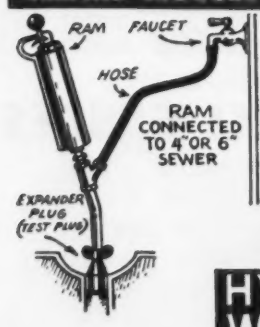

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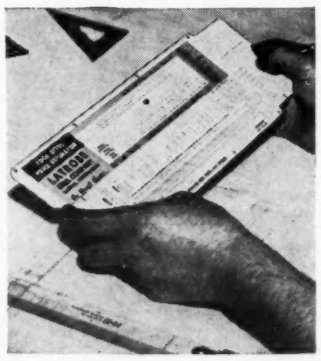

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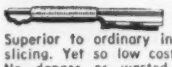

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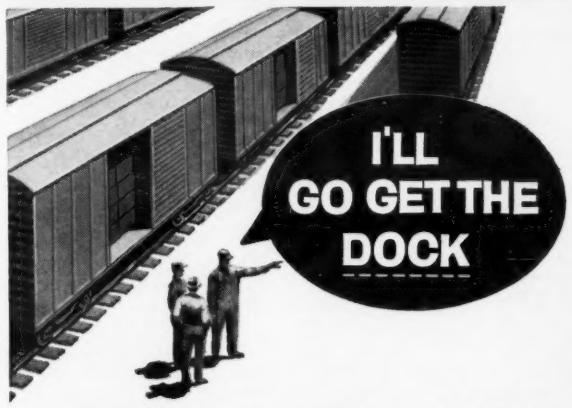

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